THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, APRIL 4, 1885. NO. 14

ORIGINAL LECTURES.

GULSTONIAN LECTURES.
ON MALIGNANT ENDOCARDITIS.

Delivered at the Royal College of Physicians, London, on Thursday, March 5, 1885.

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LECTURE III.

MR. PRESIDENT AND GENTLEMEN: Few diseases present greater difficulties in the way of *diagnosis* than malignant endocarditis, difficulties which in many cases are practically insurmountable. It is no disparagement to the many skilled physicians who have put their cases upon record to say that, in fully one-half of them the diagnosis was made *post mortem*. In spite, too, of able memoirs in the journals, the disease has not been much known, and it is only of late years that the text-books have contained chapters upon it. The protean character of the malady, the latency of the cardiac symptoms, and the close simulation of other disorders, combine to render the detection peculiarly difficult.

Diagnosis.—In the group of cardiac cases in which the disease attacks a patient the subject of chronic valvulitis, the matter is usually easy enough. The existence of fever of an irregular type, and the occurrence of embolism, generally suffice to make the case clear. It must be remembered that simple warty endocarditis not unfrequently attacks sclerotic valves, and may be accompanied by slight fever. Of course, in chronic heart disease, irregular pyrexia may arise from other causes—local suppuration, cellulitis, etc.—which must be excluded.

In rheumatic fever, a disease in which the heart is more systematically examined than in any other, if with the occurrence of a murmur the symptoms become aggravated, and assume a typhoid or pyæmic type, the recognition of the complication should be easy. The onset of severe head-symptoms in rheumatism—delirium, with high fever and coma—requires to be carefully distinguished. Fortunately, the simple endocarditis so common in this disease rarely, as I shall have occasion to show, passes into the grave form.

In pneumonia, a prolongation of the course, with the supervention of typhoid or septic symptoms, should lead to a very careful examination of the heart.

The greatest difficulty is met with in those acute cases resembling the malignant forms of the fevers; here the affection may simulate typhoid, typhus, cerebro-spinal meningitis, or even hemorrhagic smallpox. Even with the detection of a heart-murmur, the judgment may have to be suspended, and many cases die with the general symptoms of profound blood-poisoning, before the development of any special features upon which a diagnosis could be based.

From typhoid fever, with which the cases are most often confounded, the mode of onset, the pyrexia, and the abdominal symptoms offer the chief points for discrimination. The onset of severe endocarditis is more abrupt, not so often preceded by a period of failing health and progressive weakness. In a large number of cases, cardiac pain or oppression and shortness of breath are mentioned as early symptoms. The fever rarely presents, in the early days of the disease, the regularity of typhoid, and from the outset may be very high. A sudden fall to the normal, or even below, may occur; indeed, irregular pyrexia is one of the most important diagnostic signs. The combination of diarrhœa, abdominal distention, and a rose-colored eruption, points strongly to typhoid fever. The rash, when present, is usually petechial, a rare circumstance in typhoid fever. The development under observation of pronounced murmurs, particularly of aortic and regurgitant, is most suggestive of malignant endocarditis, and the occurrence of emboli would be a positive confirmation. Rigors rarely occur in typhoid fever, while they are common in endocarditis. It is well, however, to bear in mind that, in many of the most severe cases, death may occur, as in any of the infective disorders, without the development of the special symptoms necessary for a diagnosis.

Many of the cases present the clinical features of pyæmia, a condition which may actually exist, dependent upon the ulcerative lesions on the valves; and here the diagnosis lies between an ordinary septic infection from a wound, or auto-infection from a primary endocardial inflammation.

It is interesting to note the similarity of those cases of acute endocarditis in which death occurs in a few days, without the development of any other than the valvular lesion, with those instances of rapidly fatal acute periostitis and necrosis, and also with those cases of malignant septic infection from a slight external lesion.

It seems strange that difficulties should arise in the diagnosis between malaria and malignant endocarditis, but the records of cases plainly show that for weeks or months a condition of intermittent pyrexia may occur, simulating every type of ague. The paroxysms in regularity, in order of sequence, and in the accompanying general conditions, may fulfil every condition of a quotidian or tertian intermittent; and the development of cardiac symptoms, with breaking of the pyrexial type, may alone determine the nature of the case.

Etiology and Pathology.—With a view of obtaining data upon which to base statements regarding the etiological relations of malignant endocarditis, I have gone over the records of 209 cases. As before stated, 37 of these occurred in connection with pyæmia, traumatic or puerperal. Doubtless this number could have been very greatly increased had I examined files of special gynecological and surgical journals, but my investigation did not lie so much in these directions. In 45 cases, there was no record of any previous disease

which could be taken into account as possibly connected with the endocarditis. In 127 cases, there was a history of past or existing disease with which the cardiac trouble could, with a greater or less degree of probability, be associated.

One or two general considerations may first be mentioned. The period of middle life gives the greatest number of cases. Young children are rarely the victims; there were only three or four instances under 10 years of age, and not many more over 50. The cases occurring in connection with rheumatism presented an average younger age than the others; there were 36 instances under 30 years of age, out of 51 cases in which this point was mentioned.

Of 160 cases (exclusive of traumatic and puerperal), 99 were in males, and 61 in females.

Persons debilitated by exposure or other causes, or addicted to drink, seem particularly liable to be attacked; and in such subjects, during the course of an acute disorder, this complication is much more likely to arise.

As has been already referred to, the existence of sclerotic valvulitis is a very important factor in the etiology of severe endocarditis, a very considerable proportion of the cases occurring in individuals whose valves are thickened and crumpled from chronic inflammation.

The existence of a primary, protopathic endocarditis must, I think, be allowed. In 45 cases, no history could be obtained of rheumatism or other affections with which endocarditis is known to be associated. Many of these cases were of the most malignant type; in 10, death took place within a week. A specific statement of the absence of rheumatism was generally given. The onset was usually like that of a specific fever, headache, vomiting, rigors, pyrexia, and often early delirium and unconsciousness. The very acute cases resemble severe typhoid or typhus, but, when more prolonged, a pyæmic condition may develop. In a number of these cases the disease had attacked persons with chronic valve disease, some while under treatment, others in whom the compensation was complete and the old lesions only detected at the necropsy. In 5 instances, the ulcerative process attacked aortic valves, two of which were fused, and had undergone the fibroid changes always associated with this malformation.

In 127 of the cases, the endocarditis was associated with other diseases, some of the most important of which we shall now proceed to consider.

Rheumatism.—Since Bouillaud called special attention to the frequency of cardiac complications in this disease, its importance in the etiology of endocarditis has been universally recognized. And, as regards the simple form of endocarditis, the general statements are quite true, but, fortunately, the graver and fatal form is much less common, much less, I think, than is usually supposed. In 53 cases, there was a history of rheumatism, past or present. I included every case in which there had been the record of an attack, recent or remote. In only 24 did the symptoms of severe endocarditis arise during the progress of the acute or subacute disease. In 29 cases, there was simply a history of rheumatism, often years before, and no mention of the occurrence of joint troubles at the time of the development of the endocarditis. Dr. Ogle called attention to the fact that ulcerative endocarditis occurred very often in persons in whom no rheumatic history could be traced. Of 21 cases which he reported, some of which were probably atheromatous, in only 3 was rheumatism mentioned. In only 3 also of the Montreal cases was there any positive history of rheumatism, either before or during the attacks. The following case, under the care of Dr. Ross, is a good example of the mode of onset:

B. M., aged 22, a healthy girl until three weeks before her admission to hospital, on January 4th. At that time she was attacked with rheumatism of the wrists and ankles, not very severe, and she did not receive any treatment. A week from the beginning of the attack, she began to have chills, two or three a day, and she became feverish. During the next week she became worse, had occasional chills, not delirious; was brought to hospital on the 4th, in a very low state. On the 5th there was delirium and incoherence. Pulse 130; temperature 100°. Double murmur up and down sternum; joint-troubles not evident. On the 6th, 7th, and 8th, she remained in the same state, no chills; temperature ranged from 100° to 102°. On the 9th she was more restless. On the 11th a gray membrane was noticed on the fauces. On the 12th, the membrane in the throat had extended, and covered the soft palate. Temperature 103°. On the 13th she died suddenly. The necropsy revealed a large deep ulcer at the aortic ring, nearly destroying one segment, and penetrating deeply between the auricle and the left ventricle. There were small infarcts in the brain, extensive recent diphtheria of fauces.

In a larger number than in any other group, sclerotic valves were found, with the existence of which the past rheumatism could, in many instances, be connected. A primary rheumatic endocarditis was recognized by Latham, also by Graves and Stokes, and it is quite possible that some of the cases which I have grouped as protopathic represented instances of the kind in which, if life had been prolonged, joint-troubles might have supervened.

Cases of acute rheumatism sometimes occur in which there may be multiple miliary abscesses,[1] and a pyæmic condition similar to the case just narrated, but without the presence of endocarditis. Micrococci have been found in these abscesses, and the cases resemble those rare instances of idiopathic pyæmia. It is worthy of observation that a skin-eruption was most frequently noted in connection with the rheumatic cases, generally an erythema. In a case of Dr. Kirkes,[2] it was observed on both face and hands. The occasional presence of a scarlet rash in rheumatism[3], and in puerperal fever[4], has long been recognized.

In chorea, with which simple endocarditis is so often associated, the malignant form very rarely supervenes.

Pneumonia, as Bouillaud pointed out, is not unfrequently complicated with endocarditis, but the important part which it plays in the etiology of the malignant disease has not been generally recognized. In the cases I have reviewed, it stands at the head of the list of diseases in which secondary endocarditis of a severe

[1] Fleischauer, Virchow's Archiv., Band lxxii.
[2] British Medical Journal, 1863, vol. ii.
[3] Peter, Union Médicale, 1870.
[4] Hicks, Obstetrical Society's Transactions, vol. xii.

nature develops, 54 instances having been noted, rather more than 25 per cent. of the total number of cases. For this I was quite prepared by our Montreal experience, for, in 11 of the 23 cases, the attack was associated with pneumonia. Of the occurrence of acute endocarditis in this disease, the statements are somewhat diverse. Bouillaud thought that, in a third or fourth of the cases in which there was left-sided pneumonia, there was inflammation of the serous membranes of the heart. Grisolle, in his classical work on pneumonia, states, on the contrary, that it is a rare complication, and this would certainly appear to be the conclusion of the Committee for Collective Investigation; for in the report upon 1000 cases, endocarditis is only once mentioned. My experience at the Montreal General Hospital is very different. I have notes of 103 necropsies of cases of lobar pneumonia, and the occurrence of acute endocarditis is noted in 16 cases, over 15 per cent. Of these cases, 11 were of the malignant form. An analysis of these shows that, in 6, the left lung was involved; in 5, the right; in 4, the upper lobe was affected; in 7, the lower. In 9 of the cases there was pericarditis; in 5 of the 11 cases, there was suppurative cortical meningitis. In the 54 cases which I have reviewed, in 36 the lung affected was mentioned, and in 26 the affection was on the right side, and in only 10 on the left; figures which are opposed to the statement of Bouillaud, that it is in left-sided pneumonia that endocardial complication most frequently supervenes. In 15 cases, acute meningitis is mentioned, and, in one instance, the meninges of the spinal cord were also affected. The aortic valves seem more often involved than the mitral. In 17 instances, there were old sclerotic changes in the valves.

The clinical features of several cases in which the endocarditis came on during pneumonia have already been given. In many of them, as in the girl, aged 29, referred to in the second lecture, the patients are brought to hospital unconscious, and die within a few few days, with symptoms of a grave cerebral disorder. In others, there is a history of ordinary pneumonia, and the case may pursue the usual course, and defervescence take place, when, in a day or so, fever of an irregular type recurs, and typhoid or pyæmic symptoms appear. The majority of the cases are of this kind. Again, some instances occur in connection with injuries, and the patient succumbs to a lobar pneumonia and endocarditis unconnected with any sepsis. Two of the Montreal cases were of this kind. In three or four cases, there were rheumatic symptoms preceding or accompanying the pneumonia, as in a case of Dr. Musser's, the remarkable temperature-chart of which is here shown.

Elderly persons were more often attacked than in the other groups. There were ten individuals over fifty years of age. In the Montreal cases three of the patients had had pneumonia before; in one it was the third attack, and in every one of them there was a history of either drinking habits or previous bad health. In some cases, the pneumonia had partially or entirely resolved at the time of death, in others there was red, or, more frequently, gray hepatization.

The relation of the meningitis to the pneumonia and the endocarditis is particularly interesting. The occasional occurrence of this complication in pneumonia has been referred to by many writers, particularly Grisolle, Huguenin,[1] and Greenfield.[2] In the 105 cases I met with it in eight instances, in five of which there was also endocarditis. The frequency of the association of these two conditions in pneumonia is illustrated by the figures already given; of twenty-five instances of meningitis in malignant endocarditis, fifteen cases occurred in pneumonia. In all the specimens I have examined, there were micrococci in the exudation, and in three cases many of the capillaries and small arteries were filled with them; and its seems natural, where the endocardium is involved, to attribute the process to embolism from the valves. But the occurrence of an identical cortical meningitis without any valvulitis shows that it may be due to other causes than the endocarditis. As Huguenin suggests, it may he dependent upon the presence in the blood of infective material derived from the infiltrated lung tissue.

In connection with these secondary or consecutive inflammations in pneumonia, it is interesting to call to mind the not unfrequent occurrence of pericarditis, and of croupous inflammation of the gastro-intestinal canal. Dr. Bristowe some years ago noted the frequent complication of croupous colitis; and, in 103 necropsies, I have met with this complication in five instances; and in one there was extensive croupous or membranous gastritis.

Diphtheria is rarely complicated with endocarditis, and I have been able to find only two or three instances in which severe symptoms were present; yet in some works endocarditis is stated to be not an uncommon sequence. Labadie-Lagrave[3] regards it as such; but it is probable that what he described as vegetations are only Albini's little nodules, the remnants of fœtal structures. In 108 necropsies in diphtheria Telamon[4] did not meet with a single case of endocarditis; and my experience has been the same in thirty post-mortem examinations, many of which were in adults.

In *dysentery* a few cases have occurred. Litten[5] has recorded an instance in which there was extensive ulceration of the aortic valves; and one of the Montreal cases occurred in connection with acute colitis.

In the *eruptive fevers* grave endocarditis occasionally develops—in typhoid, in scarlet fever, and in variola; but in the cases I have analyzed these diseases appear of very trivial etiological significance.

In *ague*, as Lancereaux[6] first pointed out, simple or severe endocarditis may develop. In some of these cases, as in the remarkable one reported by Dr. Bristowe, to which I referred in the second lecture, the paroxysms of true intermittent, and those of the ulcerative endocarditis, seem to run the one into the other.[7] In most of the cases there has been only a history of severe ague, and the endocarditis has followed repeated attacks. Dr. Greenhow[8] has reported a very instructive case of the kind.

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[1] Ziemssen's Encyclopædia, Band xii.
[2] St. Thomas's Hospital Reports, 1878.
[3] Bull. Soc. d'Anatomie, 1877.
[4] Progrès Médicale, 1879.
[5] Charité Annalen, iii.
[6] Gazette Médicale, 1862: and Archives Générales, 1873.
[7] Dr. Bristowe informs me that, in the case referred to, he is inclined to regard the intermittent pyrexia as dependent from the outset upon the endocarditis, and not associated with malaria.
[8] Path. Soc. Transactions, vol. xxx.

Dr. Goodhart[1] makes the interesting suggestion that ulcerative endocarditis is more frequently met with at periods in which scarlet fever, erysipelas, pyæmia, and diphtheria prevail. The Guy's Hospital records certainly seem to show that the cases appear in groups pretty close together, and at a time when the diseases mentioned are epidemic. In Montreal we have had occasionally a "run" of cases together, but I have not noticed the connection referred to by Dr. Goodhart.

Pathology.—I approach a discussion of the pathology of malignant endocarditis with some trepidation, partly due to a sense of incompetency, and partly from a feeling that the time is scarcely ripe for a satisfactory presentation of the subject; and yet there are signs which make one hopeful; and it would not be rash to predict that the knowledge twenty-five years hence will be as much in advance of to-day as our information on the subject is of the time when Dr. Kirkes made his memorable investigations. A serious difficulty exists in the circumstance that we have not to deal with a single form of disease—an entity; but rather with a special manifestation in many affections—affections, too, the pathology of which is, in most instances, by no means clear. No one can doubt that the more severe cases of endocarditis present in a typical mode all the features of those diseases which we call infective, and believe to be caused by the absorption of some poison, the development of which in the blood and tissues profoundly disturbs, and finally annihilates, function.

Briefly stated, the theory of acute endocarditis which, at present prevails, and the only one to which I shall refer, is, that it is in all its forms, an essentially mycotic process; the local and constitutional effects being produced by the growth on the valves, and the transference to distant parts of microbes, which vary in character with the disease in which it develops. This very attractive theory can be adjusted to meet every requirement of the case, though as yet lacking certain of those substantial data so necessary for full acceptance, but which, having been furnished of late years in other diseases, we may reasonably hope will in time also be forthcoming for this.

Let us see, first, what has been done, and how far the facts at our disposal seem favorable to this view. The constant presence of microörganisms seems undoubted; only, in the simple acute form, we need more careful observations with our improved methods. Some good observers have not been able to find them;[2] others declare them to be invariable constituents of the verrucose outgrowths.[3] The careful application of such a satisfactory mode of staining as recommended by Gramm should readily determine this question. A study of the endocarditis of puerperal and traumatic pyæmia will be most likely to yield important information, as here the conditions are simpler, and the relation of the microörganisms can more readily be determined. The cardiac complication in these cases is only part of a general process, excited by a local lesion, and is entirely secondary and subsidiary. Micrococci arranged in chaplets are constant constituents of the vegetations, and, in the case of puerperal fever, they have a close resemblance to those found in the peritoneal exudation. The well-known observations of Koch, Ogston, and others have shown the relation of microbes to pyæmia; and the recent culture-experiments of Rosenbach[1] go so far toward demonstration for man what Koch had previously done in the case of the pyæmia of the mouse. In these cases, a study of the modes of growth of the micrococci of the endocarditis, and of the effects of inoculations, and a comparison of these with similar observations in the organisms of the original lesion, or of the metastatic foci, should yield results of great value in the interpretation of the phenomena of secondary endocarditis.

In rheumatic fever, we are still too far from any accurate knowledge of its intimate pathology to dwell on the possible connection of any organism peculiar to it, and the endocarditis so common in its course. Klebs[2] distinguishes the microbes occurring in rheumatic cases from those of the septic forms.

In pneumonia, micrococci undoubtedly abound in the exudation of the air-cells, and their mode of growth in gelatine is peculiar, but the numerous experiments on artificial production are not yet conclusive. The evidence is accumulating which places pneumonia among the infective disorders; and it certainly is a seductive view to take of its pathology, to regard the local pulmonary lesion as excited by the growth of micrococci in the air-cells, and the various consecutive inflammations, the endocarditis and pericarditis, the pleurisy, the meningitis, the membranous gastritis or colitis, as due to the penetration of the organisms to deeper parts, and their local development under conditions dependent on the state of the tissues. The processes are all of the character described as croupous, and have as a common feature the presence of micrococci in a coaguable exudation. We have still, however, to settle the identity of the organisms of the air-cells with those of the consecutive inflammations; but we may reasonably hope ere long to have some positive data from investigations in this disease, which, more than any other, offers favorable opportunities for the solution of these problems.

In diphtheria, as we have seen, mycotic endocarditis rarely occurs; and, in a few instances, observed in association with scarlatina, variola, erysipelas, and other affections, we lack positive information with regard to the characters of the microörganisms.

In the way of experimental investigation of the properties of the micrococci, not much has been done of a satisfactory nature. Heiberg[3] placed bits of vegetations from a puerperal case beneath the skin and in the peritoneal cavity of a rabbit without effect. Eberth[4] and Birch-Hirschfeld[5] have produced panophthalmos in the rabbit by inoculating the cornea; and I was able to produce well-marked mycotic keratitis in the same animals with fresh material from the valves of two cases. H. Young, of Manchester, inoculated rabbits with pus from

[1] Ibid., vol. xxxiii.

[2] Orth, Lehrbuch der Speciellen Pathologischen Anatomie, Lief. i., 1883.

[3] Klebs, Archiv für Exper. Pathologie, Bd. iv.; Köster, Virchow's Archiv, Bd. lxxii.

[1] Microörganisms bei den Wund-Infections, Krankheiten des Menschen, Wiesbaden, 1884.

[2] Archiv für Experiment. Pathologie, Bd. ix.

[3] Virchow's Archiv, Bd. lvi.

[4] Ibid., Bd. lvii.

[5] Archiv der Heilkunde, Bd. xvii.

an abscess in ulcerative endocarditis, and was able to detect micrococci in the blood.

No conclusive culture-experiments have yet been made. Grancher[1] has cultivated a microbe from the blood, taken during life with all necessary precautions, but apparently not in series, and no inoculations of animals were made. Cornil[2] has made cultures on gelatine, but apparently no special results have been reached.

How do the micrococci reach the valves? In cases of puerperal and traumatic septicæmia, the external lesion is undoubtedly the source of infection which is conveyed through the venous system; and, in these cases, it will be remembered that the right heart is most often affected. In other instances, where the skin is unbroken, we must suppose them to gain access by the lungs or intestines, most probably the former; and, in these instances, the left heart is the chief seat of the mycosis. Whether they reach the valve with the general blood-current, as Klebs supposes, or through the coronary arteries, as Köster holds, cannot be considered settled; but, from the position of the early vegetations in a non-vascular region of the valves, and from the fact already referred to, that colonies of micrococci can be seen directly upon the endocardium, it seems probable that Klebs's view is the correct one. He suggests, in explanation of the fact that the lines of closure of the valves are the usual seat of the process, that the micrococci, circulating with the blood, are here closely pressed into the endothelium by the firm apposition of the flaps. Whether or not in any given case endocarditis will arise, depends greatly on the condition of the valve tissue. In a case of pneumonia or other disease—such as pyæmia—in which we may suppose microbes circulating in the blood, the endothelium of normal valves may be able to resist their invasion, or, even if they do lodge and penetrate, the conditions may not be favorable for their growth; but, where an individual is debilitated, and the tissue-tone lowered, or if, as so often seems the case, the valves be diseased, then the micrococci find a suitable nidus, and excite, by their growth, an endocarditis which may be of a malignant type. As Dr. Goodhart suggests,[3] patients with chronic sclerotic valves are walking mushroom beds, in common times without spawn, but in periods of epidemics taking in germs by various channels, which fertilize in some cases into ulcerative endocarditis; in others, to suppurative processes. Certainly, on paper, so to speak, the view which I have thus imperfectly and hurriedly discussed seems plausible enough, and meets the requirements of the case fairly well; but let us, in conclusion, follow an important rule too much neglected, and get a definite outline for our ignorance. In the first place, we do not yet know, with sufficient accuracy, the frequency of the occurrence of microbes in simple endocarditis. Are they constantly present, or only in forms associated with special diseases? Secondly, we want ull information of the various forms of microörganisms occurring in secondary endocarditis, and of their relation to the microbes assumed to be the cause of the primary disease. And, thirdly, we are only at the threshold of inquiries relating to the culture of these organisms, to the macroscopic characters of their growth, and to the possible experimental production of endocarditis.

I cannot conclude without thanking my late colleagues at the Montreal General Hospital, by whose kindness I have had command, not only of the pathological, but also much of the clinical, material upon which these lectures were based; and lastly, sir, you will allow me to express my sincere regrets that my efforts have not been more worthy of such an intensely interesting subject, and of the distinguished audience which I have had the honor of addressing.

[1] Journal des Médecine de Paris, December 20, 1884.
[2] L'Abeille Médicale, December 22, 1884.
[3] Loc. cit.

ORIGINAL ARTICLES.

SHOULD ARTIFICIAL ANUS BE FORMED WHEN A PORTION OF INTESTINE IS RESECTED FOR GUNSHOT WOUND?

By WILLIAM A. BYRD, M.D.,
of Quincy, Illinois.

In a letter which is published in The Medical News of February 28, 1885, "J. C. R." takes exception to the conclusions arrived at by The News in an editorial in its issue of February 21st, where the doctrine of closing the wounds in the intestine and then dropping into the abdomen is advocated. This editorial does not agree fully with the editorial in the issue of February 2, 1884, entitled "Radical Cure of Artificial Anus," in which the idea of making a Dupuytren's operation for the closure of artificial anus, instead of exsecting a portion of intestine and dropping it back into the abdominal cavity, is ably upheld. Now it may be very properly contended that excising a portion of intestine for gunshot wound and for the cure of artificial anus are two very different things. The gunshot wound is accompanied by great shock and extravasation of fecal matter in the peritoneal cavity, which causes an amount of irritation very liable to be followed by suppurative inflammation, even if the cavity is well cleaned out. These two conditions render the operation of closing the intestine for gunshot wound much more dangerous than the operation for curing artificial anus by excision. The very fact of the added complications and dangers should lead the surgeon to adopt the method fraught with the least danger, and that method, I believe to be the one where the artificial anus is formed. By that method the gases that form in the intestine have an opportunity to escape and not press upon the lungs and heart by upward distention as well as distend and tear out the stitches, permitting repetition of the extravasation. The ends of the bowel may be brought together in such a manner as to allow of spontaneous cure of the small artificial anus that is left to permit escape of the gas. For the method, I will refer the reader to my "Address on Surgery" delivered before the American Medical Association, in 1882, at the meeting in St. Paul, and to a paper by me on "The radical cure of artificial anus" which appeared in The News for April 12, 1884.

It matters not for what purpose a resection of intestine is made; to my mind, the same general

principles must govern the treatment. J. C. R. refers to a footnote in the *British Medical Journal* Jan. 24, 1885, p. 173, where Mr. W. Whitehead refers to a statement made by Sir Spencer Wells in his Inaugural Address upon the Revival of Ovariotomy "(*British Medical Journal*, November 15, 1884, p. 950), in which he states that, in a recent paper by Reichel, 121 cases of resection of intestine have been collected, the conclusions being that the two ends of the bowel should not be united at the time of resection, but that an artificial anus should be established. The article to which the above is a note is entitled "Excision of the Cæcum for Epithelioma: Death on the Thirteenth Day." In the body of the article is this paragraph, of which the note is explanatory:

"The second point to decide was whether or not, after the removal of the growth, it was desirable to unite the divided ends of the bowel together. The desire to attempt the latter course was naturally great; but, the main object being kept strictly in view, it was not considered warrantable to subject the patient to such additional risk, especially in an operation which only holds a tentative position in surgery. Whilst admitting the wonderful success that has attended the operation of enterorrhaphy, it cannot at present be regarded as an established precedent free from objections and disadvantages. The danger of non-union, and the contingency, possibly remote, of future stricture, are risks which do not admit of being lightly passed over. Further, by bringing the two ends of the bowel outside, there always remained the opportunity, should it ever be considered desirable, of uniting them by a subsequent operation."

Sir Spencer Wells, in commenting upon Reichel's statistics, says: "This can be closed by a subsequent operation. You will probably soon see a report of a case, not yet published, where Mr. Jessop, of Leeds, cured a fecal fistula by separating the injured intestine from the abdominal wall, and uniting the upper and lower parts of the gut by suture." The two statements seem somewhat contradictory, but I am led to think he favors the formation of artificial anus in cases of resection of intestine.

Mr. Bryant's opinions, as given in the Harveian lectures, published in the *British Medical Journal*, in November and December, 1884, are rather indefinitely stated. But he expresses himself more positively in the report on "colectomy" published in the *Transactions of the Royal Medical and Chirurgical Society*, for 1882.

Mr. Bryant requested me when in London to explain to him my method for closing artificial anus. The operation is very simple to demonstrate but very hard to describe as to be easily understood, but I succeeded in making it clear to him on this occasion. He spoke of the frequency of stricture at the sigmoid flexure, and stated that the next case he had he would make colectomy with artifical anus, and he did so, as the report shows, in the early part of 1882. In the Harveian Lectures he has not changed his opinion, though I do not know whether or no he has gone further and adopted my method for the closure of the artificial anus after it has served its purpose of saving the life of the patient.

Mr. Frederick Treves, in a recent very excellent work on "Intestinal Obstruction," says:

"It may be that the operation of suturing the intestine immediately after the resection may be improved as surgery advances, but, as the matter at present stands, everything points in favor of the operation that demands the establishment of a temporary artificial anus.

"The comparative value of those two procedures has been fully discussed by Reichel in the monograph above alluded to, and this surgeon has shown clearly that the chief element of success in resection operations depends upon the formation of a temporary fecal fistula.

"It must be borne in mind that the patients who are subjects of resection operations are suffering from obstruction, and often from acute obstruction. Their lives are threatened by reason of this obstruction, and any operation performed should give immediate and entire relief to the distended bowel above the site of the occlusion. In the second of the two methods above described this relief is afforded. The engorged intestine can empty itself at its leisure. If, however, the divided ends of the bowel be at once united after the excision of the diseased segment, the distention, to a great extent, remains, the obstruction is but imperfectly relieved, the gut at the suture line is paralyzed, peristaltic movements must be interrupted at this point, and free circulation of the intestinal contents is thus rendered practically impossible. The fact must not be lost sight of, that in the resection operations the relief of an obstructed intestine is of more immediate moment as regards the patient's life than the removal of an epithelioma or neoplasm from the walls of the bowel.

"Then, again, the operation requiring immediate suturing of the intestine is long and tedious, and the state of the patient upon whom these operations are performed is usually such as to render a prolonged narcosis most undesirable and most dangerous. The procedure that postpones the suturing of the bowel to a future period is readily performed, and, indeed, is almost as simple as an ordinary enterotomy or colotomy.

"In all resection proceedings there is a great risk of death from fecal extravasation, and it is needless to point out that this risk is infinitely reduced by a perfect evacuation of the bowel above the obstruction.

"In many examples of resection, especially when undertaken for gangrene, the bowel is not in condition to insure sound and perfect healing. For the success of the primary suture operation this ready healing is essential, and it will be obvious that in excising the bowel, with this fact before him, the surgeon would be apt to remove too much.

"Owing to the disturbance of the mesentery the margins of the divided intestine are apt to slough a little. In the latter of the two procedures now under notice, this would prove a matter of no moment; in the former it would probably lead to fecal extravasation and death.

"It may be said, therefore, that in resecting the intestine a temporary artificial anus should always be established, and the suturing of the bowel left to a future period.

"To this rule one exception may be made. In cases of resection of small intestine high up in the jejunum, the divided ends should be at once brought together with sutures whenever the state of the intestine will permit. The mortality attending fecal fistulæ in the upper part of the jejunum is well known."

No apology is necessary for so lengthy a quotation, as the whole of it is applicable to the subject under consideration. There may be those who can

see no connection between excision of intestine for gangrene and for gunshot wound, but the ball in its passage injures the parts so as to cause gangrene to ensue at a more or less remote period from the receipt of the injury. And the bowel at the line of union would not be in fit condition for the passage through it of any thing like large masses of fecal matter. Any one who has had much experience with gunshot wounds knows well that the amount of shock, with paralysis of tissues in the immediate vicinity of the course of the bullet cannot well be known by sight. Tissue that has no appearance whatever of having been bruised frequently dies and sloughs out.

The pleasant experience of Drs. R. A. Kinloch and William T. Bull should not deter operators from viewing the other side. Then there are other cases of recovery from operations for excision of bowel for conditions somewhat analogous to those of gunshot wound. One of the most notable is the excision of two inches of intestine for wounds inflicted by a stab with a dull knife, the operator and reporter being Dr. Joseph Grindon of St. Louis. (*Courier of Medicine*, Oct. 1884, pp. 220, *et seq.*)

All who heard the Address on Surgery before the American Medical Association last year by Dr. Charles T. Parkes, of Chicago (Medical News, May 17, 1884, p. 563), must have been delighted with the care bestowed upon and the richness of the drawings used to illustrate the subject. He evidently believes in bringing the ends of the divided intestine together and then dropping it back into the abdominal cavity, as the following shows:

"Two cases of the series were subjected to the expectant treatment. These cases were chosen because their injuries did not seem very severe; the hemorrhage was not great and the prostration not extreme. Both died: the first in one day, the other lived five days. Post-mortem examination showed extensive extravasation of the contents of the bowel and septic peritonitis. In one case an attempt was made to establish an artificial anus. The wounded intestine was resected and the ends fastened to the edges of the abdominal incision. The animal died of septic peritonitis in three days. This trial was made early in the experimentation, before any definite plan of procedure had been settled upon. This is the only experiment that has given rise to any regret, for I feel satisfied that with a fair junction of the bowel and a clean abdomen, the animal would have been saved.

There is no reason given why this case should have been attacked with septic peritonitis, unless we are to infer that the abdomen was not clean, and I believe the trouble was in not having a sufficiently free opening in the abdominal wall, the intestine thus being left partially strictured at the point of exit. In making the artificial anus after resection of intestine, all the precautions should be taken that would characterize the same operation when the two ends of the divided bowel are united and dropped into the abdominal cavity. The abdomen should have the "*peritoneal toilette*" as carefully performed and every bleeding point should be just as assiduously looked after.

After a bullet has passed into the abdomen, no surgeon can know the extent of injury until the abdomen is laid open and the bowels are carefully examined. Small wounds may with safety be united at their edges, with the peritoneal surfaces brought in contact, providing the injury is not at the omental border, at which place Dr. Parkes has shown the greatest danger exists of ulceration, perforation, and attendant extravasation.

I have arrived at my conclusions as to the advisability of forming artificial anus more from my own experience than perhaps from what I have read, but the more I have read the more thoroughly am I convinced that it is a procedure that will receive more attention in the future. None of my cases have been of gunshot wound, but the same pathological condition obtains in all analogous operations in the abdominal cavity. Ephraim McDowell struck the keynote, which untouched, there would be no discussion now as to the proper mode of treating wounds of the intestine. We would still be trusting to the Lord entirely when a man got shot in the abdomen until the hidden trouble required his burial.

I have made artificial anus six times; twice for gangrenous strangulated hernia; in one I took off eight inches of intestine and a large piece of omentum, in the other three inches of intestine, and made an opening at a different point from the place of strangulation to bring the bowel out; in both foreign matter got into the abdomen, both got well, both were operated upon for the cure of the artificial anus, and both were cured and are yet living.

Twice I have formed artificial anus for adhesive obstruction; both got well of the trouble, one to die six or seven months after from albuminuria, and the other between two and three months after the operation from pneumonia.

Twice I have made artificial anus for congenital absence of the anus; in one, left lumbo-colotomy was performed, and the patient was killed by a foolish use of carbolic acid about three months afterwards for antiseptic purposes. The attending physician could not be induced to believe the rectum would absorb anything detrimental to health from a solution of carbolic acid. The other patient who had the coccyx excised, and the bowel completely detached and brought down into the opening, recovered, and is in excellent health.

Another case I saw July 5, 1879. A young man returning to his home in Mendon, Illinois, had gotten into a drunken row on the cars and had been stabbed in the side with a pocket-knife, the blade of which entered the ilium. Dr. C. J. Tibbets, a very intelligent dentist of this city being near him secured the cut bowel, and having seen John Loyns, the patient on whom I had exsected eight inches of intestine, fastened this cut end into the wound in his side with sutures, and left him off the train, at Mendon, in the care of Dr. Peter Young. He was doing very well when I saw him, except that there was a good deal of undigested food passing through the wound. He continued to do well for a day or so when he sank from dysentery, July 9th. Dr. Young informed me that there was no peritonitis; that the gut had become firmly attached to the wound in the side; and that he would certainly have recovered had it not been for the depressing effects of the intoxication and the dysentery. None of these

was a case of gunshot wound, but they were similar in that in all the ends of the intestine were freed from the surroundings and could have been dropped if it been thought best; that is all, but those of imperforate anus.

Besides these, I have operated three times for abscesses where they have communicated with the lumen of the bowel; in all these cases there was recovery complete and permanent.

The artificial anus can be readily cured by the method referred to in the issue of THE NEWS for April 12, 1884, page 414. I believe all the cases operated upon by that method have recovered—at least, all that I have heard of. The last case in which I used it was that of a man from Kansas who had come to St. Louis to consult my friend, Dr. Louis Bauer, who kindly invited me to operate upon him, which I did a few weeks ago at the Pius Sister's Hospital. From a letter received from Dr. Bauer, to-day, I learn that the patient is doing very well. At a future time I shall gather together the reports of this operation and publish them in a more extended form.

416 JERSEY STREET, QUINCY, ILLINOIS,
March 6, 1885.

NOTES ON THE CLASSIFICATION, DIAGNOSIS AND TREATMENT OF THE STAGES OF CHRONIC NASAL INFLAMMATION.[1]

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I PROPOSE to ask attention to a classification of chronic nasal inflammation, which is based on personal anatomical investigation and clinical experience, and which, I venture to think, will prove of practical value in the diagnosis and rational treatment of this affection.

The leading anatomical characteristic of chronic nasal inflammation resides in certain changes which the erectile bodies undergo. In the earlier stages of catarrhal inflammation there exists a peculiar excitability of these structures which causes sudden obstruction of one or both nostrils; later on is found a permanent swollen or puffy (dilated) condition of the erectile tissue, due to a subparalytic state of the intercellular walls with consequent dilatation of the erectile spaces. As the disease advances, there is a metamorphosis of the intercellular walls into dense fibrous tissue, which in contracting gradually obliterates these spaces, and causes finally atrophy of the erectile bodies.[2]

These changes in the erectile structures furnish the anatomical ground for the classification which I present for your consideration.

Classification of the Stages of Chronic Nasal Inflammation.

I. SIMPLE INFLAMMATORY (RHINITIS SIMPLEX); divisible into periods of—

a. Irritability of erectile tissue.

β. Permanent dilatation of erectile tissue.

II. HYPERTROPHIC (RHINITIS HYPERTROPHICA); divisible into periods of—

a. Dilatation with hypertrophy.

β. Complete hypertrophy.

III. ATROPHIC (RHINITIS CIRRHOTICA); divisible in periods of—

a. Commencing atrophy.

β. Complete atrophy.

I. The first or *simple inflammatory stage* consists of two periods, the one characterized by *abnormal irritability* of the cavernous tissue, the other by *permanent dilatation* of the same.

a. *Period of irritability:* Characterized by increased irritability of the mucous surfaces, expressing itself chiefly in abnormal excitability of the erectile tissue, leading to sudden obstruction of one or both nostrils in the presence of changeable atmospheric conditions, when the individual assumes the recumbent position, as at night, or when under the influence of certain forms of excitement, and in some women at the menstrual period; in fine, when the individual is exposed to any of the exciting causes of coryza.

β. *Period of dilatation or permanent puffiness* of the erectile tissues (chronic coryza). As the result of the repeated erection of the cavernous tissues which occurs in the first stage, a paralytic or subparalytic state of the resilient and contractile elements of the walls of the erectile cells develops, leading to their permanent dilatation, recognizable by the eye as an engorged or *puffy* condition of the turbinated tissues, which may be distinguished from true hypertrophy by its collapsing under the probe, by the readiness with which it can be pressed against the external wall of the nostril, and by its diminution in bulk under various measures which produce reflex contraction, or emptying or depletion of the erectile spaces, such as the sudden application of cold, the use of cocaine, etc.

It is this subparalytic condition of the tissue, represented by the puffy character of the swelling, which is the *connecting link between the simple and hypertrophic stages.*

II. *The second or hypertrophic stage* is divisible into two periods, characterized respectively by *hypertrophy with dilatation*, and by *complete hypertrophy.*

a. *Period of hypertrophy with dilatation:* Characterized by commencing hypertrophy of intercellular connective-tissue walls of the erectile bodies with uniform puffiness of the tissue not especially involved in the fibrous process.

β. *Period of complete hypertrophy:* Characterized by more or less complete conversion of the affected portion of the tissue into a fibrous mass; swelling generally uniform, unyielding. This complete hypertrophy is most commonly met with on the posterior extremity of the inferior turbinated body, while its anterior extremity is generally puffy, dilated, doubtless from *collateral engorgement.*

III. *The third or atrophic stage* is separable into two periods, one of *commencing atrophy* and one of *complete disappearance of the erectile tissue.*

a. *Period of commencing atrophy:* Characterized by pronounced contraction of the newly formed

[1] Read Feb. 20, 1885, at the Clinical Society of Maryland.

[2] For further particulars concerning these changes, see article by the writer in THE MEDICAL NEWS of Oct. 4, 1884, entitled, "Some Notes on the Pathology of Intranasal Inflammation."

fibrous bands, leading to irregular, nodular condition of the tissue more prominent in the posterior part of the inferior turbinated body and along its inferior border. This uneven appearance of the diseased portion not infrequently assumes the appearance of fibrous or papillomatous excrescences which may become detached, the process of detachment constituting one step in the future and complete atrophy of the tissue. The erectile spaces are inconspicuous and, in some places, entirely gone.

β. Period of complete atrophy (turbinated cirrhosis): Characterized by a rudimentary condition of the turbinated bodies, due to more or less complete disappearance of the erectile tissue.

II. In the natural state, the lumen of the nostril, or that space which exists between the turbinated bodies and the septum, is indicated by a slit, narrow and pointed above, and broader and more triangular below, which may be roughly compared to the slit in the sounding-board of a violin. When the turbinated tissues are made to contract artificially, obliteration of this slit occurs, the middle and inferior meatuses are represented by a broader, more pyramidal passage, and the middle and deeper portions of the nostrils come into view. The opening of the posterior nares into the retro-nasal cavity is then seen as a dark, clearly cut perpendicular line. In some persons, especially in those whose nasal chambers are naturally capacious, this linear opening may be seen without artificial contraction of the turbinated bodies.

The position of the turbinated bodies also varies within certain limits in the normal condition. When the inferior turbinated bone is "depressed," its anterior end appears as a rounded or, in some instances, bluntly pointed protuberance jutting out from the external anterior wall of the nostril, and closely in contact with the floor of the inferior meatus, from which it seemingly springs. When the bone is "elevated," there is a distinct, sometimes very broad, space between its inferior border and the nasal floor, the curve and dip of its anterior extremity is generally well defined, so that a *comma-shaped space* is left between it and the external wall. The inferior surface of the bone is not visible except in cases in which the long axis of the bone is directed upward and forward.[1] In some families, the inferior turbinated bone of one side is unusually developed without giving rise to serious inconvenience,[2] a fact which it is well to bear in mind in coming to a conclusion in diagnosis.

The rounded, bulging middle turbinated bone occupies the upper and outer portion of the anterior rhinoscopic picture. In the anterior portion of the nostril the space between it and the inferior varies greatly within the limits of health. Usually it presents a more or less pear, or inverted, comma-shaped appearance, with or without a comma-shaped space between it and the outer nasal wall.

It is only in very exceptional cases that the superior bone can be seen.

In the posterior rhinoscopic image the floor of the nostril is not visible in health, being hidden by the bulge of the palatal muscles, and the inferior edge of the lower turbinated bone is only visible in exceptional cases of the "elevated" form. Generally only the upper portion of its posterior extremity is visible. The posterior border of the septum is almost invariably straight, but just anterior to it, and within the nostril there is a slight bulging or cushion which represents the cavernous body located there.

The middle turbinated body generally projects inward as a pear shaped protuberance, whilst the superior is either scarcely visible, or appears as a rudimentary-looking tubercle or projection.

Only a small portion of the inferior meatus is visible as a small, dark, and three-cornered space. That portion of the middle meatus which is included between the turbinated bones is seen in the mirror as either a half moon or imperfectly defined S-shaped slit. The irregular spaces between the bones are continuous with the space common to the three meatuses, and which appears as a dark chamber in the rhinoscopic image.

The color of the mucous membrane in different individuals and in the same individual at different periods varies within the limits of perfect health. It may be said, in general, that it is of a pale reddish hue, more pronounced in the area covered by erectile tissue. In the posterior rhinoscopic picture, the color of the membrane appears of a darker hue, the parts being thrown more or less into shadow.

The mucous membrane is closely adherent to the anterior portion of the septum and walls of the vestibule, whilst over the posterior part of the septum and turbinated bodies it is looser, and separated from the periosteum by the erectile body which becomes a thin layer as the anterior extremity of the bone is reached.

In the anterior portions of the nostril, therefore, the turbinated bodies are more compact and closely adherent than the posterior segments of the nasal chamber.

I have dwelt upon the above anatomical considerations because I have found them invaluable guides in diagnosis. In anterior rhinoscopy the amount of swelling may be very conveniently measured by the changes in breadth and direction of the S-shaped slit, and the degree of obliteration of the comma-shaped space, whilst the amount of posterior hypertrophy is most accurately determined by the anatomical facts detailed above. The amount of swelling on the septum may also be determined in a similar manner.

The amount of swelling or hypertrophy, and the implication of the bone in the process, may furthermore be measured by the hard and incompressible or the soft yielding character communicated to the finger by the probe, whilst hypertrophy may be differentiated from mere puffiness by the ease with which the erectile bodies may be emptied or compressed by mechanical causes or artificial contraction. In the latter case the rapidity of contraction is often a measure of the amount of mere puffiness. In using cocaine, for example, if the swelling be due to mere

[1] In a case suffering from mental disease, I observed the inferior turbinated bone so elevated that it occupied the position usually assumed by the middle, and its obliquity was such that more than half of its inferior surface was distinctly visible.

[2] I have observed this condition twice.

puffiness, acute or transitory engorgement, it subsides very rapidly, almost instantly, while if hypertrophy coexists the tissues collapse much more slowly and less completely.

In making the diagnosis of incipient rhinitis, it should be borne in mind[1] that the disease not infrequently has its starting point in the erectile bodies, and occasionally in the periosteum. In such cases, the first evidence of its existence is a more or less engorged state of the area occupied by cavernous tissue. A stimulus, too, which in the normal state would exert little or no impression, is usually sufficient to provoke more or less erection of this tissue with, it may be, the evolution of reflex phenomena. In all cases the cavernous structure becomes sooner or later involved. Abnormal irritability of the area covered by this tissue, with slight puffiness of the same, are, therefore, invaluable guides in the early recognition of chronic intranasal inflammation. It should be borne in mind, at the same time, that this condition of the erectile bodies is not always the forerunner of rhinitis, but may be due to other and physiological causes. The swelling of the mucus membrane of the vestibule and anterior portion of the septum (cartilaginous septum) is always inconsiderable, except in the latter portion of the hypertrophic stage, when it is often excessive.

In their perfect physiological condition, the nasal passages are moistened by a scarcely perceptible halitus which varies in amount according to the condition of the surrounding atmosphere and other external and internal causes. The existence of mucus must be regarded as pathological, and therefore incompatible with a perfectly healthy condition of the nasal passages. While the secretion of mucus may be due to temporary causes (local or systemic irritation), it is always present in greater or less amount in the earlier stages of rhinitis. The more or less constant presence of mucous secretion within the nostril is therefore indicative of commencing inflammation.

III. *General Rules of Treatment.*—The general principles governing the rational treatment of the different stages, may be summed up tersely in the following propositions:

In the early part of the first stage, the treatment is mainly hygienic (hardening the skin, acclimatizing the nasal passages, attention to general health, protection of nasal passages from direct or indirect sources of irritation, removal, if possible, to an equable climate, etc.), and consists in many cases simply in the search for, and removal of, the cause (local or reflex irritation, general systemic disease, vices of constitution from various causes, excesses, surroundings of patient, etc.). At this period local treatment is often unnecessary, and in some cases harmful. In other cases, great benefit is derived from the judicious use of detergent, alterative, and astringent preparations, applied, as far as possible, to the diseased surfaces alone, in the form of solution or mixture with some such substance as cosmoline, glycerine, vaseline, etc., or these substances may be advantageously used unmedicated. In a certain proportion of subjects, the administration of remedies to control reflex excitability of the nerve centres is productive of good.

The treatment of the second period of this stage must be carried out on the same general principles as above. Remembering the condition of the contractile elements of the intercellular walls, measures should be taken to restore their loss of power (strychnia and electricity occasionally useful). Failing in simpler means, resort may be had to the galvanocautery or to electrolysis.

In the above periods, medicines in solid forn (*e. g.*, powders) are absolutely contraindicated, as tending to increase the irritation and to hasten the coming of the hypertrophic stage.

The management of the first period of the hypertrophic stage consists in a combination of the above methods. Here surgical procedures are more justifiable. In the second period of this stage, the treatment is essentially surgical, and consists in the removal of the obstruction, in procuring thorough cleanliness of the nasal passages, and attention to the general principles indicated above. Solids are contraindicated. The general treatment of the third stage is tonic and hygienic; the local, is palliative, and consists in keeping the parts scrupulously clean and lubricated.

[1] See article referred to above.

RAPID ANÆSTHESIA BY ETHER.

BY A. F. MÜLLER, M.D.,

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THE following method of rapid anæsthesia by ether was suggested to me seven or eight years ago by a thought that the great length of time often consumed in etherizing patients was due to the fact of the frequent interruptions necessary to replenish the cone or towel used for the purpose, and the consequent partial recovery of the patient. To obviate the difficulty and obtain a continuous flow of pure ether vapor, I had made an apparatus, consisting of the two valves of a rubber foot-ball; sewed together at the edges and connected by a tube with a bottle containing ether, which is plunged into a bucket of hot water. Ether boils at 98°, and vapor passes over steadily and rapidly, and is inhaled by the patient, whose face is covered by the inhaler, protected by a clean towel.

The result has been surprising, as will be seen by the following cases, all etherized by this method within the last three months at the Germantown Hospital. In none of the cases was there nausea previous to anæsthesia; one at least came to the house the morning of the operation having eaten a hearty breakfast. In most cases no struggling, and if so, only slight; no stage of excitement. In cases that require only a few moments for operation, the patient wakes up nearly as quickly as after nitrous oxide. After the patient is etherized, the amount passing over can be regulated by a stopcock at the bottle end of the tube.

The apparatus I have used is very crude, made only for the purpose of experiment, and I am having an improved one made, which I hope will be more satisfactory in some of its details.

The quantity of ether used to produce complete insensibility in no case exceeded three ounces; in some it was less than an ounce and a half.

Case 1.—D. E., epithelioma of eyelid; plastic operation: unconscious in thirty seconds.

Case 2.—K. McF., peritomy: unconscious in one minute twenty seconds.

Case 3.—K. McF., peritomy: unconscious in one minute eleven seconds.

Case 4.—M. P., paronychia and palmar abscess: forty-five seconds.

Case 5.—Mrs. B., lacerated cervix: one minute twenty seconds.

Case 6.—Mrs. B., lacerated cervix: one minute fifteen seconds.

Case 7.—Bilateral lithotomy: one minute fourteen seconds.

Case 8.—Miss M., dilatation of cervix: one minute forty seconds.

Case 9.—Mrs. T., laceration of cervix: one minute twenty-four seconds.

Case 10.—Mrs. S., fracture of anatomical neck of humerus: one minute seventeen seconds.

Case 11.—Mrs. M., fracture of tibia and fibula: forty seconds.

Case 12.—Mrs. M., fracture of tibia and fibula: one minute forty-five seconds.

Case 13.—Mrs. B., fracture of tibia and fibula: two minutes.

Case 14.—Cataract: one minute fifteen seconds. This man when operated upon in the Germantown Hospital for cataract in the other eye about a year ago, took a large quantity of ether, and required an hour to put him under its influence.

Case 15.—Mrs. D., amputation of forearm: one minute thirty seconds.

Case 16.—McLane, hypopyon: one minute twenty seconds.

Case 17.—Mrs. S., lacerated cervix operation: one minute thirty seconds.

Case 18.—Cleaver, sarcoma of iris: one minute twenty seconds.

A CASE OF ARCUS SENILIS IN A BOY THREE AND A HALF YEARS OF AGE.

By H. F. HANSELL, A.M., M.D.,
Chief of Clinic of Eye Department of Polyclinic, Ophthalmic and Aural Surgeon to Southwestern Hospital etc., Philadelphia.

Recently at The Southwestern Hospital was presented the following case which, as far as I am able to learn, is unique: A mulatto boy three and a half years of age with distinctly marked and unmistakable arcus senilis in each cornea. "Circulus" senilis would be the more accurate designation, since the ring is complete on each cornea, though not quite so fully developed below as above, and on the sides. It appeared on each eye simultaneously in the upper segments of the cornea, about one year ago while the boy was convalescing from an attack of measles, and slowly advanced until the arc was made into a ring. I could obtain no history of inflammation or ulceration, and the mother positively asserts that the child's eyes "never had anything the matter with them, except the white rings."

These rings of fatty degeneration are in nowise dissimilar to the arcus senilis of adult life or old age. There is a margin of clear cornea between them and the sclerotic border, and they are sharply bounded toward the centre by clear corneal tissue which shows no trace of previous inflammation.

The influence of heredity, which can usually be traced where the arcus appears in the very young, in our case is negative. The mother and several brothers and sisters are free from the affection. The boy has no other abnormalities, and his health is perfect.

Edwin Canton, in his monograph on Arcus Senilis, says: "The arcus is said to have been seen at birth. I doubt the correctness of this assertion, and as I have already remarked, believe that an arciform opacity, the result of ulceration, was mistaken for it." The youngest case he mentions occurred in a boy of 12, in whose father, aged 56, mother, aged 53, and two brothers, aged 16 and 20, the arcus was very distinct. Middlemore says, it occurs as early as 40, Laurence between 30 and 40, Sybel saw it in a man of 32, Dixon in a girl of 18. Gross, in his *Pathology*, says: "The earliest age at which it usually occurs is 50, although it has been observed in a few instances in young children."

254 South Sixteenth Street.

MEDICAL PROGRESS.

Abortive Treatment of Typhoid Fever by Mercurial Inunctions.—Dr. Kalb, of Thalmässing, in the *Berliner klin. Woch.*, No 3, 1885, reports that he has treated one hundred cases in this way. Mercury is no new medicament—it is only applied in a new way in this fever. Six grammes of the ointment (in children four) are rubbed in for half an hour each time daily for six times in all—1st, on the belly; 2d, on the inner side of the right thigh; 3d, the left, and then beginning with the abdomen again. The ointment is preferable when a little rancid; it causes less eczema than when fresh. Internally at first a few pills of calomel and opium are given, even when diarrhœa is present. No other medication is resorted to, save methodical use of alcohol (sp. oryzæ), colored with cochineal. The course of the disease under this treatment was mostly as follows: On the eighth day, consequently on the second after the inunctions ended, the temperature fell to normal or thereabout, and remained so. The pulse remains for a few days over 100 or 120, yet it falls with the temperature to normal, or even 60. With the fall of temperature an abundant sweating almost always sets in, and the body is covered with miliary vesicles. The spleen remains enlarged and palpable for ten to fourteen days after this. Dr. Kalb did not fail to make comparative experiments, and found that the inunction treatment caused an evident shortening of the course of the disease. Eighty per cent. of his cases so treated were free from fever in ten days from its beginning. But to be successful, treatment must be begun before the ninth day of the fever, consequently before rose-spots are visible. No stomatitis worth mentioning has ever resulted, and patients recovering so soon must be carefully watched for a fort-

night and dietetic errors avoided, so that relapses may be prevented. The charts adhibited show the cases to have been of some severity, as temperatures of 40° and 41° C. (= 104° to 105°.8) are registered.—*Edinburgh Med. Journal*, March, 1885.

TREATMENT OF VAGINITIS.—SIGMUND recommends the following solution for the treatment of vaginitis:

Iodine	gr. 1¼
Potassium iodide	gr. 6 to 12
Glycerine, pure	ʒv.

Dissolve and apply to the walls of the vagina, or introduce tampons wet with the solution for the treatment of blenorrhagic vaginitis with granulations.—*L'Union Médicale*, February 12, 1885.

RETENTION OF A DEAD FŒTUS TO THE NORMAL END OF PREGNANCY.—DR. PELZER reports the following case of retention of the dead fœtus during several months. The case was under observation at Rabenau's Polyclinic, and is of interest on account of its rarity.

The woman was fifty years old and had menstruated regularly since the age of sixteen. She had borne two children, and fifteen months previously to her appearance at the polyclinic had aborted at three months. She gave no history of syphilis, and had always been in good health.

On the 6th of November, 1884, the woman appeared at the clinic—giving the history of not having menstruated since the 12th of February. She had none of the subjective symptoms of pregnancy.

The uterus lay in normal position, was somewhat soft, and indicated the fourth month of pregnancy. The neck of the uterus was thick, soft, and showed by the speculum a bluish color. The os uteri was rather large.

The breasts were well developed, but on pressure no milk appeared. The examination caused no pain. Further examination was made about one week after her first appearance at the clinic, and had the effect of exciting uterine contractions, inasmuch as two days later the woman returned, giving a history of profuse bleeding since her preceding visit. Examination revealed the presence of the membranes in the cervical canal. The product of conception was therefore extracted—during which the membranes were broken and a quantity of amniotic fluid, clear, but of bad odor, escaped. The placenta, which was slightly adherent, was then delivered, and afterward the uterus was thoroughly washed out with a solution of corrosive sublimate (1:4000).

The fœtus was well preserved. The umbilical cord was long and entirely free from knots. The placenta was of ordinary form and structure. The further progress of the case was normal, a slight retroflexion only being present, which arose, no doubt, from the lack of care the woman exercised. The malposition was corrected by a pessary, and, January 26, the uterus showed a measurement of three and one-fifth inches.—*Centralbl. für Gynäklogie*, Feb. 28, 1885.

EXTRACTION OF HARD CATARACT.—At the January meeting of the *Congres de la Société Française d'Ophthalmologie*, Galezowski's method for extraction of hard cataract, which, according to that operator's statistics, has given such brilliant results, was discussed at length.

The method of operation is as follows:

1. The eyelids are separated with the articulated blepharostat, and the globe seized below the cornea with forceps to render it steady.

2. With a very delicate Graefe knife he punctures at the junction of the transparent cornea with the sclerotic, about one-eighth inch above the horizontal diameter.

3. He then introduces the point of the knife below the pupil and incises the capsule from below upward in a semicircle. He then makes counter-puncture on the side opposite the corneal border, an eighth of an inch above the horizontal diameter.

4. He then incises the cornea one-twelfth of an inch from the sclerotic border.

5. The blepharostat and forceps are then removed, and the eye permitted to rest.

6. The upper eyelid is then elevated with the little finger at the right hand, and at the same time the curette is applied to the sclerotic border of the wound.

7. With the thumb of the left hand he then presses upon the lower border of the cornea. The crystalline lens is engaged and escapes without difficulty.

8. The iris frequently returns of itself; if not, he replaces it with a fine silver stylet.

9. A collyrium of eserine is next applied to the eye.

10. Carbolic acid spray is directed upon the wound for one or two minutes, and antiseptic carbolic dressing applied.

M. Galezowski considers the use of the carbolic spray as very important for the cure of the corneal wound.—*Gazette Médicale de Paris*, March 7, 1885.

CANNABIS INDICA IN THE OPIUM HABIT.—DR. J. B. MATTISON, in the *Canada Medical Record* of Jan. 1885, recommends the fluid extract of cannabis Indica in the treatment of the opium habit where the characteristic restlessness or insomnia is manifested after the withdrawal of the opium. Full doses are given and repeated every hour, second hour, or less often as may be required. Squibb's fluid extract is used, and 60 minims given at a dose, no unpleasant symptoms having ever been noticed, and Dr. Mattison considers that the small doses recommended in the books are useless.

TREATMENT OF ZONA.—DR. FABRE recommends the following treatment of zona: In the beginning of the disease, mild purgatives may be necessary. These should be followed by general sedatives, such as opium, belladonna, and ether, to diminish the pain. Locally, anodyne liniments may be applied and the diseased parts dusted with subnitrate of bismuth or oxide of zinc. If the vesicles are fresh and transparent, they may be aborted by covering them with collodion; but if they have been present four or five days, application of collodion will have no good effect; but, on the contrary, they will suppurate beneath it. The neuralgia which persists after the cure of the eruption should be treated by hypodermic injection of morphine or atropine, and arsenious acid in doses of from $\frac{1}{30}$th to $\frac{1}{8}$th of a grain be administered internally.—*L'Union Médicale*, Feb. 26, 1885.

Sciatica Cured by Chloride of Methyl.—At a meeting of the Société des Hôpitaux, held February 13th, M. Desnos read a communication from Dr. Almagran, of Orleans, concerning a patient suffering from severe and persistent sciatica. The disease had resisted all treatment and gradually became worse, and after application of the cautery the pain was intolerable. After two applications of chloride of methyl all along the course of the sciatic nerve, progressive improvement resulted, within three days the pain had entirely disappeared, and at the end of three months had not returned.—*Revue Médicale*, Feb. 21, 1885.

Laparotomy Repeated for Intestinal Occlusion.—Dr. Alfred Obalinski, in the *Wien. Med. Presse*, Nos. 48–50, 1884, gave the history of a laparotomy performed by him for intestinal occlusion. Ten days after its performance, the patient was sent home cured, September 29, 1884. January 16th of the present year, the patient returned to Dr. Obalinski, again seeking relief and complaining of the same pain as existed four months previously. Examination revealed the fact that about the 8th of January he began the second time to suffer intestinal pain which progressively increased in intensity. Seeking the advice of his family physician, he was directed to use purges and enemata, but these were without effect, and laparotomy was suggested as the only means of relief.

After careful examination, owing to the existence of meteorism, constipation, pain, etc., Dr. Obalinski was convinced that he again had to deal with a case of volvulus. Accordingly, a long incision was made in the abdomen about half an inch to the left of the cicatrix of the former wound. The peritoneum was found to be entirely normal, pale or slightly reddish. In it was a clear but dark-colored effusion, after the removal of which the intestine was found strangulated in the mesentery. The same difficulties presenting themselves as in the former operation, Dr. Obalinski punctured the small intestine with a probe trocar, but the perforation thus made refused to close, and accordingly sutures were introduced to insure thorough closing of the intestine. After the operation, there was movement of the bowels twice during the night, and the condition of the patient for two days succeeding the operation was very favorable. The pulse was strong at 80, the temperature about 100° F., and no abdominal pain was experienced. At the end of this time, however, severe abdominal symptoms were manifested and these were followed by collapse, great tympanites, and small thready pulse. Notwithstanding all efforts to sustain the patient, death resulted. The opinion was held that peritonitis had been caused by a failure of the catgut sutures to close the perforations in the intestine, and the consequent escape of the contents of the bowel into the peritoneal cavity. Post-mortem examination, however, showed this view to be incorrect.

In the peritoneal cavity was found about a quart of yellow feculent fluid. Further search revealed the presence of an opening in the ileum about one inch long and a fifth of an inch wide, with fatty edges. Further examination showed the colon to be the seat of numerous infiltrated spots, about twenty in number, the size of a *kreutzer*. The neighboring lymphatics were also markedly infiltrated, and the spleen was double the normal size and soft.

The case is especially of interest, as showing that the patient probably would have recovered from the second operation had it not been for the diseased condition of the bowel, due to a degeneration produced by typhoid fever, whose previous occurrence had not even been suspected.—*Wiener Med. Presse*, Feb. 15, 1885.

Artificial Fluid Tympanic Membrane: A New Mode of Treatment of Chronic Otorrhœa.—Michael, having noticed an improvement in the hearing of persons with perforated tympanic membrane when fluid was contained in the ear, conceived the idea of introducing into the ear an artificial fluid tympanic membrane instead of the pledget of wadding ordinarily used.

The method he proposes is the following: By means of a dropper he introduces glycerine into the ear until testing of the hearing, made after the introduction of each drop, shows an increased power of audition. If a drop too much is introduced, it is removed by a little wadding. He then introduces a few drops of elastic collodion, which does not unite with the glycerine, but forms a pellicle on the top of it. It is necessary at certain intervals to renew the collodion, as after a time the pellicle formed by it is destroyed.

When purulent otorrhœa is to be treated, Michael uses, in the place of pure glycerine, glycerine and alum or tannic acid.

Michael specially remarks that there is no danger in purulent otitis of confining the pus behind the collodion. The double advantage of this mode of treatment is protection of the ear from the air and the application of an astringent solution to its mucous membrane.—*Revue de Thérapeutique*, March 1, 1885.

Diabetic Neuralgia.—Dr. Florain, in the *Gazette Médicale de Paris* of Feb. 28, 1885, after discussing a typical case of diabetic neuralgia which came under his notice, concludes the pathogeny of the disease not to be well established. It is, however, easily recognized by its appearance concomitantly with diabetes, its intensely nocturnal exacerbations, and symmetry.

The appearance of the attacks before pregnancy, while the patient is in relatively good health, when there is no anæmia, sets aside at once the possibility of an anæmic origin. Moreover, gestation itself can no longer be reckoned as an exciting cause, inasmuch as the attacks may recur three months after confinement, and after a metro-peritonitis followed by abundant hemorrhage.

In the treatment of the disease, electricity seems to be efficient, faradization being very certainly followed by beneficial results.

Dr. Florain explains the good effect of electricity by supposing that the increased muscular action excited by the current, results in the formation of lactic acid at the expense of the inosite of the muscular tissue and of the hydrocarbons accumulated in the blood.

A Case of Floating Liver.—Dr. J. Maack, in the *St. Petersburger med. Wochenschrift*, 1884, No. 40, reports a case of floating liver in an unmarried woman

aged 35. Eleven years ago a swelling was observed under the border of the right ribs, and was pronounced a hydatid tumor of the liver. The swelling gradually increased in size, and produced but little disturbance until May, 1884, when nervous symptoms of such intensity manifested themselves that she again submitted herself for examination. The liver was out of its normal position, and a hemispherical smooth, stationary mass was present in the right ileo-cæcal region, overlying the right os ilei. The liver was not enlarged, but contraction had probably taken place

Floating liver previously has only been observed in women who have been especially prolific, and to relieve the symptoms produced thereby only the application of a bandage is necessary. In the preceding case, however, all attempts to produce pressure by a bandage were followed by pain, oppression, and fainting.

The case is, moreover, a very unusual one, in which the cause of dislocation of the liver was not relaxation of the abdominal wall, but stretching of the suspensory ligament of the liver, due to hydatid tumor, which in the meanwhile had decreased in size.—*Centralblatt für Chirurgie*, Jan. 24, 1885.

PHYSIOLOGICAL ACTION OF COCAINE.—At a meeting of the French Academy of Sciences, M. Vulpian read a paper on the physiological action of cocaine, by MM. GRASSET and JEANNEL. The conclusions reached are the following:

1. Cocaine produces in the ape violent convulsive attacks.

2. Chloral is antagonistic to cocaine as an excito-motor as well as in its thermic effects.

3. The thermic action of cocaine does not appear to be identical in the ape and dog.

4. Antipyrin does not appear to be antagonistic to cocaine in thermic effects.—*L'Abeille Médicale*, Feb. 23, 1885.

HYSTERICAL FEVER.—M. DEBOVE, at a meeting of the Société Médicale des Hôpitaux, recently held, read a paper upon hysterical fever. The existence of this disease, though admitted by ancient authors, has been disputed for the most part by modern writers. In supporting the view of the entity of the affection, M. Debove cited the case of a woman, aged 24 years, and who has been under his care for five years. The woman has the various hysterical manifestations, and about three years ago first experienced marked febrile disturbance, and has ever since had a temperature above 102⅘° F. At very irregular intervals violent exacerbations take place in the febrile symptoms, more or less resembling attacks of intermittent fever, and accompanied by a temperature of from 102⅕° F. to 104° F. These attacks were at first thought to be malarial, but the small size of the spleen and the absence of all cachexia, and the failure of quinine to influence the disease, showed this conclusion to be erroneous.

Latent tuberculosis was also excluded, and a diagnosis made of hysterical fever. Shortly after the hysterical origin of the fever was decided upon, the patient experienced a renewal of the febrile symptoms of great intensity. The temperature reached 105⅘° F., and the pulse was 130.

Sulphate of quinia had no influence whatever upon the attack, which persisted fourteen days. On the thirteenth day, 75 grains of antipyrin reduced the temperature below 100⅖° F., and her general condition was much improved. M. Debove has also observed other cases analogous to that just cited, not so clearly defined, but which support the conclusions he has reached as to the reality of hysterical fever. In the somnambulistic state, M. Debove has observed the temperature to rise from 1° F. to 2° F. by mere suggestion. Lowering of temperature by the same means has been less certainly obtained, the central temperature remaining invariable or even rising. Under these circumstances, M. Debove is of the opinion that the central thermic elevation is due to the contraction of the peripheral vessels under the influence of the suggestion of cold and to the consequent diminution of the loss of heat from the surface of the skin.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, Feb. 20, 1885.

TREATMENT OF TETANUS.—PROF. VERNEUIL (*Revue de Médecine de Toulouse*), in the treatment of tetanus, adopts the following as fulfilling the indications most necessary to combat the disease:

1. *Complete immobility*, best obtained by Bonnet's apparatus.

2. *Constant and elevated temperature*, obtained by enveloping the entire body in a thick covering of wadding.

3. *Uninterrupted sleep*—chloral coma continued about twenty days.

When tonic contraction of the heart or bronchial muscles threatens the life of the patient, the continued current or tracheotomy must be resorted to. If there is danger of death from starvation, owing to dysphagia, or if the œsophageal sound is repelled, gastrostomy may be a final resort.—*Revue Médicale*, Feb. 28, 1885.

TWENTY-THREE TÆNIÆ EXPELLED IN ONE DAY.—A. LAVERAN, Professor at d'École du Val-de-Grace, reports the following remarkable case of the expulsion of twenty-three tæniæ in one day. The patient was a lieutenant in the French army, and entered the hospital of Val-de-Grace in December, 1884, and soon after his admission passed segments of tænia. Previous to his admission to the hospital, he had been treated with various drugs, among which were santonine, pumpkin-seed, and castor oil, none of which was satisfactory. December 23, trial was made of the ethereal oil of male fern. The day preceding its administration, the patient partook of no food save milk. On the morning of December 24, examination of the stools which had been passed the preceding day revealed the presence of twenty-three tæniæ, all but one of which were complete—the head of this one being absent, or at least not found. The tæniæ measured together about 177 feet. The macroscopic appearances were those of the unarmed tapeworm, and examination by the microscope confirmed this opinion.

Prof. Laveran concludes his report with an interesting bibliography of the cases in which multiple tæniæ have been found to exist, and justly remarks that the term *solitary*, usually applied to this parasite, is not always correct.—*Archives de Médecine et de Pharmacie Militaires*, March, 1885.

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SATURDAY, APRIL 4, 1885.

THE TREATMENT OF ILEUS.

ALTHOUGH laparotomy has come to be recognized as one of the justifiable measures in the treatment of intestinal obstruction, it is a resource which, on account of its radical character, will probably always be the last adopted. It is gratifying, therefore, to be able to add one more remedy to those already existing, which may, without any risk of harming the patient, possibly avert the necessity for so formidable an operation. Such a resource has been recently brought forward by KUSSMAUL and CAHN, in the *Berliner klin. Wochenschrift*, Nos. 42 and 43, 1884, and still more recently by DR. C. HASENCLEVER, in a paper read before the Berlin Medical Society, and published in the same journal, No. 5, 1885. It consists in washing out the stomach. Hasenclever reports six cases, in all of which marked relief was afforded, and although only two recovered, the autopsies in the remainder revealed other serious lesions which necessarily rendered any treatment futile. Cahn reports three cases from Kussmaul's clinic, of which two recovered.

Still more recently, DR. J. T. WHITTAKER read a paper on this subject before the Cincinnati Academy of Medicine, an abstract of which, together with the discussion which followed, is published in the current issue of this Journal. Two cases are referred to by Dr. Whittaker as occurring in his own practice, one by Dr. J. L. Cleveland, and another by Dr. William Judkins. The cases of Whittaker and Cleveland, although relieved, died, but that of Judkins recovered. It would seem also from Dr. Whittaker's paper that the primary suggestion of this treatment came, not from Germany, but from Cincinnati, and from Dr. Cleveland.

As soon as the diagnosis of obstruction is made, the stomach should be washed out once or even twice a day. In this way often large quantities of fecal matter, mucus, and gas, are removed, while the singultus and stercoraceous vomiting cease, and the patient experiences marked relief. Spontaneous fecal evacuations also sometimes follow. The irrigation is practised until the patient is completely relieved, or the procedure is shown to be useless. The washing is continued until the fluid comes away clear.

The rationale of this treatment cannot be definitely stated, but from the standpoint of relief to vomiting, its use is as much indicated as that of opium and ice, which, while they often relieve this symptom, nevertheless fail to remove the cause. Whether the vomiting be explained as the result of a reversed peristalsis, or be regarded as simply mechanical, the opium merely obtunds the excitability of the nervous system, and thus averts, for a time, the reflex act of vomiting, while the intestinal contents continue to accumulate. By the irrigation, one element of the trouble is at least removed—the distention of the stomach and upper part of the intestine, because, as was shown by Oser, in the *Wiener Med. Blätter*, 1884, No. 41, the operation not only cleans out the stomach, but the small intestine as well; and this, too, as effectually, where there is insufficiency of the pylorus, as in acute and chronic intestinal obstruction.

As to the curative action of this treatment, where there is no insuperable obstacle against the re-establishment of the natural evacuations, Kussmaul suggests the following explanation: 1. By removing the large accumulation of fluid in the intestine, more space in the abdomen is provided, and the enormous distention of certain parts at the expense of others is avoided. 2. The peristaltic movements of the intestine, above the point of obstruction, previously violent and irregular, become more quiet and regular. 3. It is only possible to remove a remediable obstruction, such as a bend or an invagination. Hasenclever suggests that the great distention of the stomach and intestine, in addition to the presence of unusually irritating contents, may produce strong irritation of the splanchnic fibres, and a consequent inhibition of peristalsis, with paralysis of the bowel. It frequently happens in ileus, that, succeeding a period of violent, painful peristaltic motion, there follows a long period of absolute rest, in which the activity of the intestine appears to be paralyzed, and one can easily understand that after the removal of any irritating matters, the inhibition grows less, so that the forces regulating peristalsis again acquire the ascendency, and produce fecal evacuations.

In the course of the discussion upon Dr. Hasenclever's paper, Senator having mentioned the use

of castor oil and croton oil in ileus, Ewald took exception to the use of purgatives, and especially of drastics, as calculated to produce serious mischief in breaking up the adhesions, pretty sure to be excited by hardened and adhering feces, whether the obstruction be due to a twist or an invagination.

Senator thought that patients admitted to hospitals for this affection had usually already taken purgatives, either of their own accord or at the suggestion of a physician, and they sought the hospital because they had failed to receive relief from them. No fair conclusion, therefore, can be drawn in hospital practice as to the action of purgatives. On the other hand, experience in private practice had taught him in many instances of ileus, that purgatives had been very useful; not only in simple fecal obstruction, but also in stenosis of the intestine, the result of tumors. In all such cases in which there was no strangulated hernia or an evident invagination, or some other contraindication, as peritonitis, he had been in the habit of using, in the beginning of the treatment, cathartics, and drastic ones at that, The theoretical objections to the use of cathartics have as little to sustain them in practice, as those against the use of opium given with a view to *quiet* peristalsis, while irritating enemata and ice water injections are simultaneously given to *excite* peristalsis—apparently opposing measures which he and other physicians had nevertheless found of signal service.

Among the other purposes for which Kussmaul's procedure has been suggested, is biliary colic, due to impacted gall stones. At a recent meeting of the Berlin Medical Society, Rosenthal reported two cases treated in this manner. One was that of a woman of 33, who had been six months under his care with successive attacks of biliary colic, for which all the usual measures had been resorted to, morphine alone giving her relief. He then washed out the stomach, with a view to obtaining the sedative effect to which attention had already been called by Senator. As an apparent consequence, the vomiting, which had been troublesome, ceased. She returned almost daily to have the operation repeated, and on the fourteenth day she brought with her two gall stones, each about as large as a hazelnut. Since then she has had no recurrence of the symptoms.

The second case was also that of a woman who suffered from very severe attacks of hepatic colic with obstinate vomiting, and after washing out her stomach for a few days, not only did the vomiting cease, but the stones were also passed.

Rosenthal did not undertake to explain the rationale of this treatment.

ARTHRECTOMY AT THE KNEE.

PRACTICAL surgeons need scarcely be reminded of the bad functional results which follow resection of the knee for tubercular disease. In adults and subjects who have almost completed their growth, the limb is always shortened, while in children not only is there a suspension of growth, but angular deformity and contraction of the muscles are commonly met with, especially in those of the lower classes, who, after their discharge from the hospital, are usually neglected, and the limb becomes a positive incumbrance.

In the *Centralblatt für Chirurgie*, No. 9, 1885, PROFESSOR VOLKMANN, of Halle, calls attention to the important facts, first, that tuberculosis of the knee-joint of adults is, as a rule, primary, commencing in the synovial membrane and rarely extending to the bones, or if the latter be secondarily involved, the disease is quite superficial; and, secondly, that in children the disease usually begins in the bone, as a very small deposit varying in size from a pea to a hazelnut and that the cartilage is entirely or in greater part intact. Hence, he concludes that removal of the joint surfaces of the bones is not called for in adults, and that the old typical resection or removal of the epiphyses may be avoided in the majority of cases occurring in children.

Actuated by his conclusions, he has for some time, in cases of fungous gonitis, both of adults and children, practised with the best results, what he terms synovial arthrectomy, that is to say, the total excision of the degenerated capsule, leaving the bones and cartilages as far as possible intact. In advanced cases, arthrectomy is preceded by certain preparatory procedures. Thus, contraction of the joint is remedied by extension with weights, or by manual reduction, followed by an immovable bandage; large abscesses are freely opened, carefully scraped, and the walls sutured; and the fungous masses of sinuses and undermined skin removed with the spoon, and the parts dressed with antiseptic agents.

The joint is partially opened by a transverse incision, when, if after digital exploration and inspection of the parts, total extirpation of the capsule is indicated, the incision is enlarged, and the patella divided with a saw. Should the disease extend high up, converting the bursa beneath the quadriceps extensor tendon into a tumor with thick walls, a flap is raised, of which the base corresponds to the interarticular line, and the apex is on a level with the upper end of the bursa. The joint having been freely exposed, the entire capsule, including the synovial membrane and its processes, the remnants of the semilunar cartilages, and the ligaments are removed with scissors and scalpel until sound tissues are reached. Should the subquadricipital bursa be involved, it is first attacked, through which the femur is exposed to the extent of two and a half or three inches. The cartilaginous surfaces of the bones are frequently left intact, but, in other cases, superficial or thick layers require excision. Tuberculous foci in the bones, should they

exist, are spooned or chiselled out. When indicated, partial resection of the joint ends is practised, but all sound bone and cartilage are scrupulously spared.

The preparatory straightening of the joint makes it possible to bring the limb in a straight or slightly flexed position. The epiphyses are kept in close contact, the divided patella is united with catgut sutures, and the tendon of the quadriceps or the patellar ligament, should they have been divided, are again united to the patella. The wound is, finally, carefully closed with sutures, with the exception of openings for the drainage tubes. During the operation the large surface is frequently irrigated with the sublimate solution, and, at its completion, antiseptic dressings are applied, and the limb supported on a splint.

The wound, with the exception of the openings for the drains, heals by primary union, and the operation is absolutely without danger, provided, in the case of children, too much blood be not lost, and the anæsthesia be not too deep and prolonged. The final results show a normally formed, not shortened, but stiff limb, the anchylosis of which is far more firm than after ordinary resection. The only subsequent precaution to be observed is the wearing of proper apparatus for a long time to overcome the tendency exhibited by the flexors to contract.

The paper of Volkmann is not supported by the details of cases, but a special article, prepared by one of his pupils, will appear in the course of the year, in which the comparative merits of arthrotomy, or incision and drainage, partial and total arthrectomy, and resection for fungous gonitis will be fully discussed. In the meanwhile his practice, which is most rational, will, we trust, be generally adopted.

It is interesting to note that in a paper, entitled Conservative Operations in Articular Tuberculosis, read at the Copenhagen Medical Congress, and published in the *Révue de Chirurgie*, No. 3, 1885, Professor Ollier, of Lyons, agrees in the main with Volkmann. Thus, he says that in children tubercle generally begins in the bone, while it starts in the synovial membrane in adults; and he declares that in only one case of a child below the age of ten has he been obliged to practise a formal resection of the knee. In this class of subjects, he opens the joint freely, excises and destroys fungosities with the hot iron, and scoops out tubercular foci. In adults, on the other hand, he prefers resection or amputation, since less radical measures rarely suffice to effect riddance of the disease.

THE THYROID GLAND AND MYXŒDEMA.

Professor Horsley has begun his labors at the Brown Institution, London, by a most important contribution to the physiology of the thyroid gland and its relation to the remarkable cretinoid condition which has, in some instances, followed its removal in man, and to the pathological state described by Ord as myxœdema. It has long been taught that the thyroid gland has no important influence on the bodily functions, and surgeons, acting on this assumption, have, in scores of instances, successfully removed it for various growths and degenerations. Kocher, however, has shown that in many cases a most serious disturbance of nutrition is apt to follow the operation, resulting in a condition which he calls cachexia strumipriva, a condition closely resembling, if not identical, with myxœdema and some forms of cretinism. Mr. Horsley has found that the removal of the gland in monkeys has a similar effect, but leads more rapidly to a fatal result. After complete removal the animal shows no change for five or six days, then the appetite fails, but afterwards becomes voracious. Fibrillar tremors of the muscles become general, and the animals get thin, pale, and languid. The eyelids and face become puffy, the neck thick, the abdomen distended, the salivary glands swollen, and the skin hypertrophied. The temperature gradually falls, the tremors cease and coma supervenes, with death in from six to seven weeks from the date of the operation. After death, the spleen is found enlarged, and the omentum hypertrophied, but the most remarkable changes are in the connective tissue elements, which are everywhere swollen by a mucoid transformation of the ground substance, with which is associated a wasting of the fat. The analysis shows a great increase in mucin, three or four-fold in the case of the subcutaneous connective tissue and tendon. Mucin is also found in the blood.

It seems reasonable to attribute these various conditions—cretinism, myxœdema (in which also the thyroid has been found atrophied or diseased), and cachexia strumipriva—to disturbance or arrest of the functions of this gland, and the possibility of the supervention of this state will make the operation of thyroidectomy almost unjustifiable. It would be interesting to ascertain the subsequent histories of cases operated upon in this country. Green, of Portland, Fenwick, of Montreal, and others, have had a large number of cases, many of which should be available for such an inquiry.

THE OPERATIVE TREATMENT OF PYOSALPINX.

Extirpation of the appendages, incision of the sac with drainage, and aspiration through the vagina, are the operations which have hitherto been practised for the relief of suppuration of the Fallopian tubes. Ovariosalpingectomy, in the hands of experienced surgeons like Tait, shows a mortality of 5 per cent., and the formation of a hæmatocele in about 7 per cent. of the survivors. Hence the operation is not

a very lethal one; but when the sac has contracted firm adhesions to the surrounding parts, especially to the posterior layer of the broad ligament, and the bottom of the pouch of Douglas, it is not only very difficult of execution, but the distended tube is liable to be lacerated, thereby endangering life from peritonitis. Salpingotomy, or incision of the sac with suture of its walls to the abdominal wound, and subsequent drainage, is rendered almost impracticable when there are firm adhesions between the swelling and the pelvis, on account of which the sac is not easily drawn forward, and the sutures are exposed to the dangers of rapidly cutting their way out, thereby leaving openings for the escape of the pus into the peritoneal cavity. Puncture or aspiration through the vagina is attended with the disadvantage of having to be frequently repeated, and the risk of the escape of some of the contents of the sac into the peritoneal cavity, should the adhesions in the pouch of Douglas be incomplete.

In the *Centralblatt für Gynækologie*, No. 10, 1885, WIEDOW, of Freiburg, calls attention to other methods of treatment which he believes will be found to fulfil the indications. When the distended cyst lies deep in the pelvic cavity, and is fixed by firm adhesions, a sagittal incision should be made through the vagina into Douglas's cul-de-sac, and the cyst be freely opened. Should exploration with the finger, however, indicate the absence of adhesions, the wound is plugged with iodoform gauze to excite adhesions, when incision is practised. When the cyst, on the other hand, lies in front of the broad ligament, and extends for some distance up the anterior wall of the belly, it may be reached by an incision, about two inches and a half long, carried through the wall of the abdomen, about an inch and a half above Poupart's ligament. If it be then found that the sac is adherent, it is at once opened; but should there be no adhesions, the case is managed as in the previous instance, before the abscess is cut into.

Since experience with pelvic abscesses has shown that they are best drained through two openings, Wiedow concludes that it will be wise to deal with pyosalpinx by incisions carried both through the pouch of Douglas and through the abdominal wall. In any event, irrigation with antiseptic solutions must be practised with great care, lest rupture of recent adhesions results. In an illustrative case, treated by Hegar by through and through drainage, recovery was complete in one month; but it will require very extended observation to determine whether the method possesses any real advantages over the removal of the appendages. If, after an exploratory laparotomy, extensive adhesions be met with, thereby imperilling the success of the operation, we do not doubt that the suggestion of Wiedow would be eminently proper.

GENERAL GRANT'S CONDITION.

THE condition of General Grant, after a fortnight of comparative well-being and slight improvement, has undergone a marked change for the worse. Two weeks ago there was first noticed upon the back of the pharynx a vertical strip of discoloration and slight elevation, the nature of which could not then be determined; it was half an inch broad, and extended out of sight behind the palate and base of the tongue. It remained without much change for more than a week, but on Sunday had apparently become a phagedænic ulcer, and at the same time the ulceration of the tongue extended and the palate became œdematous.

During the nights of the 28th and 29th he suffered great distress from a feeling of obstruction in the pharynx, which was relieved by the local application of cocaine and twenty minims of Magendie's solution hypodermically. During the attack he was somewhat dazed, and on the following day there were evidences of cardiac failure, with intermittence of the pulse. The distressing sensations were apparently due to œdema of the pharynx, but, fortunately, the œdema did not involve the glottis. The marked increase of the area of ulceration, and the uncertainty as to the distance to which it has extended downward behind the tongue, cause much solicitude, and his condition, as we go to press, must be deemed extremely critical.

It should be borne in mind that the disease throughout has been rather of the pharynx than of the tongue, and has closely resembled in its course and lesions the soft form of epithelioma of the œsophagus, in which induration due to epithelial proliferation is slight and the ulceration is coextensive with its area. While to this fact may be due the absence of the pain which so commonly and distressingly complicates epithelioma of the tongue, this exemption is gained only at the price of a more rapid extension of the disease, and greater exposure to the secondary consequences of the ichorous discharge.

THE INHALATION OF DEFIBRINATED BLOOD.

IN view of the bad results which follow the ordinary methods of transfusion of blood, and of the great tolerance of the respiratory organs to foreign fluids, and the rapid absorption of the latter, PROFESSOR FABRINI, of Palermo, calls attention, in the *Centralblatt für die Medicinische Wissenschaften*, No. 9, 1885, to what may be termed pulmonary transfusion. The fluid employed consists of twenty parts of bullock's blood, and eighty parts of a three-fourths per cent. watery solution of chloride of sodium, in which the red corpuscles preserve their normal properties for a long time. Inhalations of about three ounces and a half of the mixture, through the medium of an ordi-

nary spray apparatus, do not excite coughing, nor do they bring about any perceptible alterations in the circulation, respiration, or the temperature, and auscultation shows that the mixture is rapidly absorbed.

Fabrini has resorted to this novel method of transfusion in cases of oligæmia with the best results, as indicated not only by the improvement in the general condition of the patient, but also by the increase in the relative number of the red corpuscles, and in the quantity of hæmoglobin. These results are stated in a general way, and not supported by details of cases. Hence, more extended trials will have to determine the value of the method.

REVIEWS.

A System of Practical Medicine by American Authors. Edited by William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume I. Pathology and General Diseases. 8vo. pp. 1094. Philadelphia: Lea Brothers & Co., 1885.

Both Editor and Publishers are to be congratulated at having reached this stage in their great undertaking, and we may venture to estimate from this volume the general prospects of the work, and judge how far the time was ripe for "the presentation of the whole field of Medicine as it is actually taught and practised by its best representatives in America." The aim of an encyclopædic work such as this, should be the presentation of a mass of reliable information on the various medical topics, arranged in such an orderly manner that the reader, seeking for details on any subject, can obtain therein a digest and summary of the facts relating to it. From a careful review of this volume we should say that these conditions have been fairly well fulfilled. The articles, on the whole, represent the position of existing knowledge regarding the subjects of which they treat, and not viewed simply in the light of the personal experience of the writers, but broadly dealt with, embodying the collective experience of the profession.

The articles contained in this volume are contributed by twenty-one authors in various parts of the country.

The important introductory section on General Morbid Processes is by Professor Fitz, of Harvard, who presents an able summary of the facts relating to inflammation, the degenerations, tumors etc., rather too Teutonic in tone; but perhaps that is unavoidable in dealing with subjects in which our German colleagues are such masters.

The article on General Etiology and Diagnosis is from the pen of Dr. Henry Hartshorne.

On the subjects of Hygiene, Drainage, and Sewerage, the Editor has been, indeed, fortunate in obtaining the coöperation of the greatest living authorities, Dr. Billings and Mr. George Waring, Jr., whose articles, of a most practical and useful character, will be very highly appreciated.

Typhoid and Typhus Fevers are dealt with by Dr. James H. Hutchinson, of Philadelphia. One hundred pages are occupied in the consideration of the former disease, and the author has brought to his task a large personal experience, wide and extensive reading, and sound critical judgment, and the article is certainly one of the most important contributions to the volume.

The exhaustive and able paper on Relapsing Fever, by the Editor, is the outcome of one of the few careful studies of this interesting disease which have been made in this country.

The Variolous Affections are considered by Dr. Hyde, of Chicago; Scarlet Fever, by Dr. J. Lewis Smith, of New York; and Diphtheria by Dr. Jacobi, of New York, The names of these authors guarantee the character of the articles.

The late Dr. Bemiss, of New Orleans, contributed the papers on Malarial Fevers and Yellow Fever.

The article on Cholera, by Dr. Stillé, will be read with much interest in view of its possible visitation this year. The recent investigations of Koch are incorporated, but the author is non-committal on the subject. He is clear enough; however, in the question of the importance of quarantine, on which there is at present so much difference of opinion.

Professor Law, of Cornell, has written upon Rabies, Glanders, and Anthrax; Dr. Lusk, of New York, on Puerperal Fever; Dr. J. C. White, of Boston, on Leprosy; Dr. J. C. Wilson, of Philadelphia, on the Plague and Influenza; Dr. Keating, on Mumps and Whooping-cough; Dr. Watson, of Jersey City, on Pyæmia and Septicæmia; and there are articles by Hardaway, of St. Louis; F. P. Foster, of New York; Schmidt, of New Orleans; and Simmonds, of Yokohama.

Although the issue of this volume has been somewhat delayed, most of the articles are well up to date, and contain references to the most recent researches. The concluding article on Beri-Beri seems stale, and it is a pity there is no reference to the observations of Scheube and others. No mention either, is made of the occurrence of the disease in the Sandwich Islands, commercially so closely connected with this country.

It could not be expected that the articles should be of equal value, but on the whole the work has been well done, and if the succeeding volumes maintain the same standard they will greatly enhance the reputation of American Medicine.

It seems particularly appropriate that this great work, perhaps the most important American medical publication ever undertaken, should appear during the centennial year of the existence of the publishing house of Lea Brothers & Co.

SOCIETY PROCEEDINGS.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, March 9, 1885.

The President, Samuel Nickles, M.D., in the Chair.

Dr. J. T. Whittaker opened a discussion on

ILEUS TREATED BY WASHING OUT OF THE STOMACH,

by remarking that ileus is not a very rare disease, as is shown by the fact that it is so often the subject of dis-

cussion in medical societies. Leichtenstein says that one death in every three to five hundred is from obstruction of the bowels, and Treves states that two thousand people die of it every year in England. The intense suffering which its victims endure makes it a subject of interest to the profession, and makes welcome any contribution to its therapy. Yet the speaker saw a case recently in which the suffering was not of marked severity, although it proved fatal. About three weeks ago, he was called to a village in the vicinity to see an individual suffering from constipation. He had, however, been in the habit of becoming constipated at frequent intervals for a year and a half. He had also been a victim of dysentery. From this history the speaker concluded that the case was one of stricture. He was a robust man forty years of age; he had no fever and but little pain. He suffered rather from an uneasiness which led him to get in and out of bed almost constantly, and to make efforts every half hour or hour to evacuate the bowel. There was some jaundice present; but not marked emaciation. The most prominent symptom was vomiting. Every fifteen or twenty minutes he discharged a quantity (usually two or three ounces) of a dark fluid which was glutinous, but had no stercoraceous odor. The abdomen was perfectly flaccid, so that the anterior wall could be pressed down upon the vertebral column without difficulty.

Examination of the rectum revealed nothing in the nature of a stricture, even when the hand was partially introduced. An attempt was then made to wash out the bowel, when it was found that only about a pint and a half of fluid could be injected, and that this returned without bringing along with it any fecal matter. This had been done before his arrival by Dr. Highland, the attending physician, with the same result, and mild laxatives had been administered without result. Having seen great benefit in these cases from the washing out of the stomach, the speaker had taken a stomach-pump with him. He introduced it, and just as the slight constriction at the cardiac orifice of the stomach was overcome, there was a gush of a pint or a pint and a half of the dark brown fluid to which he had referred, coming up beside the tube. He got no fluid through the pump, and proceeded to wash out the stomach. The patient was greatly relieved, the vomiting ceased and on the next day he had an operation. Two days after, however, the speaker was again called and found the patient in about the same condition as at his former visit. He again washed out the stomach. During the preceding day, a severe hiccough had developed, for which the physician in attendance had given opium in small doses without succeeding in allaying the difficulty. The dose of opium was now increased, with the effect of putting a stop to the hiccough. In order to make more certain the relief of the constipation, the patient was now placed upon his hands and knees, and the rectal tube was again introduced. About eight inches from the anus there was encountered a feeble constriction which was easily overcome. Three or four pints of fluid were easily injected, but when the tube was removed only a half pint of it came away. The end of the tube was coated with a little rose-colored mucus. After this procedure, everybody was hopeful, and the patient became cheerful in the belief that the stricture had been overcome. The speaker did not see the patient again, but a few days after his visit he observed in a daily paper a notice of his death. He had not been informed of the immediate cause of death, but was of the opinion that it had been due to a perforation of the intestine, probably at the site of an ulceration.

It is not usually difficult to recognize in these cases the character of the obstruction. It would be very extraordinary, in the first place, to find an invagination in a man forty years of age. This is rather a disease of childhood. Brinton has shown us that of 100 cases of bowel-obstruction, 43 are due to intussusception, 27 to strangulation, and 17 to stricture. There is not in most cases much difficulty in determining the seat of the stricture, where that is present. An internal strangulation is not so easy to recognize. Generally, however, we come upon the localization of stricture without much difficulty. In the case reported the stricture was recognized by the introduction of the tube, and that is the manner in which it can be reached in most cases. Brinton's statistics show that in 100 cases, 4 are in the cæcum, 10 are in the ascending colon, 11 in the transverse colon, 14 in the descending colon, 30 in the sigmoid flexure, and 30 in the rectum.

After making the diagnosis of stricture, it is customary to attempt to relieve it first by the administration of mild laxatives, then we try opium. Opium has been said to be the best cathartic in obstruction of the bowels. By it we put the bowel at rest and allow natural peristalsis to overcome the constriction. Every one knows the danger of administering drastic cathartics. Opium, however, only obtunds and subdues the violent impression upon the nervous system. After everything has failed, we try operative procedure, but we are all aware of the great danger of this operation. We do not, in reality know the exact mortality of the operation, because the majority of the cases are not published. The speaker had been cognizant of several fatal cases that were never reported, and if the truth could be known, he thought that the mortality would reach above 63 per cent., as given by Treves. After opium has failed, we are left, he believed, with a disease for which there is no remedy.

Kussmaul, has recently reported four cases treated by what he termed a new method, namely, by washing out the stomach. Two of these cases were necessarily fatal, one being cancer, the other tuberculosis. Kussmaul, in his treatment, introduced the stomach-tube, then poured water in through a funnel, applying the treatment every day. He found that with each washing a large quantity of matter is evacuated, the patient at once ceases to vomit, and the collapse is greatly relieved. In some cases a cure has been obtained. Since his report, in November, 1884, cases have been reported by Cahn, Rosenthal, Fraenkel, Senator, and others. Senator, of Berlin, reported a case in which recovery was obtained after collapse had come on. He had been treating the case with opium, and seeing the report of Kussmaul, concluded to try that method of treatment. The individual at once improved and progressed favorably until the tenth day, when there was a relapse; the patient sank into a gradual collapse and died.

It was found upon autopsy that tuberculosis had been the cause of death. This case was reported to the Berlin Academy, and a discussion held upon it. Fraen-

kel's case recovered after obstipation of seventeen days. Rosenthal reported a case where three years before, a woman had been treated for gall-stone colic, by washing out the stomach, the first relief having come on after spontaneous vomiting. Rosenthal also reported a precisely similar case, since treated in the same manner. Since that time other cases of obstruction have been reported. No cause has been reported in which palliation of the symptoms was not obtained. Many cases did not recover because in some of them recovery would have been an impossibility. The practice is becoming established, and in the opinion of the speaker there was no doubt that other successes would follow.

In regard to the *modus operandi* of the method, he said a number of explanations had been made, none of which was quite satisfactory to the gentlemen who had propounded them. The first explanation is that by the emptying of the stomach of large quantities of fluid and gas, room is given in the abdomen for the movement of the intestines. In most cases the abdomen is distended with gas, so that there is no opportunity for the occluded gut to move about. The second explanation is that when we pump out the stomach we not only evacuate the contents of the stomach, but also of the intestinal canal.

The investigations of Oser in 1879, show that there is pyloric incontinence in these cases. The stercoraceous vomiting would also prove the truth of this. Oser proved it by experiments on dogs. In relieving the intestine of its great distention we give it an opportunity to unlock itself. Further, in chronic cases good is done by washing out the stomach because it allows the food to be absorbed and thus to increase the nutrition of the patient. The main advantage, however, according to Kussmaul, is that by removing the irritating matter from the stomach and intestine we substitute natural gentle peristalsis, for tetanus and spasm, and thus allow natural motions to take place.

Senator and Ewald were not satisfied with this explanation, however, the speaker continued, and appealed in their theory to the nervous system. The intestines are supplied, they said, with two sets of nerves, the excitant and inhibitory. Senator thinks that when we remove the contents of the stomach we cause the excitant to get control of the inhibitory nerve centres, and permit them to act in a normal manner. The ominous calm which supervenes upon the tetanus before death shows the predominant control of the inhibitory nerves. In the two cases in which the speaker had tried the remedy, he had found it of great benefit although both were fatal cases. In one case he knew that recovery was impossible, because there was a firm compression of the ileum, and an erosion of the intestinal wall.

The speaker then quoted briefly from the report of the session of the Academy published in the *Cincinnati Clinic*, April 28, 1880, in which it was recorded that he had reported a case treated by this method. In that case he had used the stomach-pump two or three times, and brought the case before the Academy to exhibit what he thought was a triumph in the treatment of ileus. The patient however, died very suddenly from the shock of strangulation, and the speaker was made the subject of considerable comment, having even been charged by a wise newspaper editor with having caused a death by the use of the stomach-pump. He was pleased, however, with the recollection that there were members of the Academy who supported the treatment at the time. One member, he saw by a review of the report, had, commended the treatment, and had even credited him with the originality of its introduction. This however, though he thought it true until lately, he must now disclaim, for in the same report he found recorded the remarks of another member of the Academy, Dr. J. L. Cleveland, who had instituted the same practice in a case of obstruction from perityphlitis treated by him four years before the meeting. Whatever credit is due to this method does not belong to Germany, or any part of it, but to our own country and city, and to members of this Academy.

Dr. J. L. Cleveland remarked that while cases of ileus are not of very frequent occurrence, they are of a character when they occur that tasks the ingenuity of the physician to the utmost. There is no class of cases, he said, in which the physician feels more helpless than in these. If the point of obstruction can be found, it can generally be relieved; but if this cannot be found, we are utterly helpless. We know further, that if the obstruction cannot be relieved the patient will die, and that in the utmost agony, hence the value of any contribution which will enable us to save these patients.

The method proposed, with the explanation given, the speaker thought, had the merit of being at least rational. He had a vivid recollection of the case to which the reporter had referred in the conclusion of his remarks, in which he had made use of this method of washing out the stomach, and had found it of great benefit to the patient. His reason for resorting to the procedure at the time, he said, was the fact that the patient was suffering greatly from distention of the abdomen and from vomiting. The relief which he obtained from it far exceeded what he had anticipated.

Dr. William Judkins reported that, less than thirty days ago, he had made use of the method of treatment under consideration, being led to do so from the recollection of the favorable report of it made to the Academy five years ago. The patient upon whom he used it had not had a stool for five days, and was suffering severe pain in the abdomen. He first gave him hypodermic injections of morphine, which relieved the pain. The next morning, finding the condition about the same as on the previous day, he washed out the stomach. The patient at once vomited a quantity of mucus and fluid upon the introduction of the tube. This was again done in the evening at the request of the patient, on account of the relief it afforded him. Soon after a natural evacuation occurred, and the difficulty ceased.

Dr. G. S. Mitchell expressed surprise at the statement of the reporter, that the abdominal walls were so flaccid in the case he had reported as to permit of their being pressed back against the vertebral column. Tympanites is the rule; and furthermore, in a case of tympanites, there would be more applicability of the explanations given as to the method by which washing out of the stomach could overcome the difficulty. The speaker believed that almost as much good could be done in most cases by introducing the tube into the rectum, and allowing the gaseous contents of the bowel to escape. Washing out the stomach, he added, while frequently prasticed, is not unattended with danger; neither is

the introduction of the tube in all cases free from difficulty.

The speaker then reported the case of a barkeeper who had for a long time suffered from dysentery, when an obstinate constipation set in. When seen by him the individual had been without an operation for only two days, but was suffering intense pain and incessant vomiting. The temperature was 100.5°, and there was slight dyspnœa. He gave him small doses of Rochelle salts. The vomiting was controlled by plain soda water. The laxatives did no good, and he resorted to the subcutaneous administration of morphia. He then introduced an œsophageal tube fourteen inches into the rectum, and introduced two quarts of water. The tube was allowed to remain, and in a short time gas began to escape, and finally the abdomen was reduced to its natural flaccid condition. When the water came away it was accompanied by a small amount of fecal matter. The next day the patient was much worse. His temperature was 101°, and the abdomen was very tympanitic. Collapse soon supervened, and he died in a few hours. The autopsy revealed three constrictions in the colon, above one of which was an ulcer that had perforated into the peritoneal cavity. A small quantity of pus, but no fecal matter, was found in the peritoneal cavity.

DR. PHILIP ZENNER thought that the difficulty of introducing the stomach-tube and the difficulty of getting water to pass through after its insertion had been overestimated by the last speaker. The patient must assist the operator by the act of swallowing, and when that is done there is no difficulty in its introduction. He had never seen any difficulty in the introduction of water simply by the weight of a column a few feet in height. He thought that the tube could not have been properly inserted if there was any difficulty in getting water to pass through it.

In regard to the comparative value of the introduction of the tube into the stomach, and its introduction into the rectum, the speaker thought that the danger of the latter procedure was much more to be feared than that of the former. Some of the fatal results following that method of treatment, he feared, were due more to the remedy than to the disease. Another danger of popularizing this treatment lay in the fact that by its use other methods of really greater value were lost sight of in the strong hope of recovery based upon the marked amelioration of symptoms which followed its use. The method will be of greater value when we shall have discovered by more thorough investigation in just what cases it is most applicable. In his opinion, the treatment would be most applicable to chronic cases, in which the disease would gradually, but inevitably, lead to a fatal termination. One of the cases of Kussmaul was chronic in character. There are certainly acute cases in which the treatment could be of no benefit at all. He has known cases which terminated fatally within two days after the inception of the attack. In such cases the speaker could see no reason for anticipating any benefit from this method of treatment. While we have in it a method of unquestionable power, it is our duty to endeavor to determine in just what cases it will most advantageously exert that power.

DR. THAD. A. REAMY stated that he had seen a case of ileus in which the only obstruction was due to an inflammatory band that had run across from the intestine to the pelvic peritoneum low down, and had constricted the bowel in that way. It was in a child that had received an injury six or seven weeks prior to that time. From the injury a circumscribed peritonitis had developed and given rise to the adhesive band. The peritonitis had almost subsided, however, when the obstruction manifested itself. Death occurred one day after its appearance. That was a case, the speaker continued, in which, if its character had been known, surgery would have unquestionably afforded relief. But in such a case there could be no hope for relief from the method under consideration. Still, in a great many cases this treatment will be of benefit. While he thanked the reporter for bringing the subject before the Academy, he thought it was not proper to allow the subject to drop with the impression that had been made with regard to the mortality following operative procedure. If the cases were placed under surgical treatment at an early period, he thought there was no question that the mortality would fall far short of 63 per cent. Washing out the stomach was doubtless highly proper in chronic cases; but in acute cases, in which ordinary methods had failed, a resort to surgical procedure would unquestionably reduce the mortality below 50 per cent. in the present advanced state of abdominal surgery. We need not wait for the statistics, he continued, but we should make the statistics by opening the peritoneal cavity and relieving the obstruction. If, then, the mortality of the operation would not prove much less than it now is, we must assume that there is something in the female peritoneal cavity that gives a tolerance to operative interference that is not found in the male. The operation should be made early, and with the same care as would be exercised in the removal of an ovary.

DR. JOSEPH RANSOHOFF agreed heartily with the last speaker, that the method advanced by Dr. Whittaker would answer in some cases very admirably. He thought it worthy of consideration, however, whether the case reported was one of stricture or simply one of obstruction. He had once been called to see a case which closely simulated one of obstruction, but in which there was nothing but an impaction of gall-stones. Two weeks ago he had been called to see a little boy suffering from constipation, pain, vomiting, tympanites, and a tumor in the groin. The diagnosis of strangulation of the intestine had been made, and the attending physician had made preparations to operate. It was found that it was a case of retained testicle, and the large tumor was due to a hydrocele that had formed around it. After the hydrocele was tapped the testicle descended, the bowels moved, and all the symptoms were relieved.

In reference to the case reported this evening the speaker did not think it nearly so conclusive as the one reported five years ago. That case began with a narraton of the clinical history and terminated with an account of the post-mortem section. The specimen was also presented to the Society showing the occlusion of the gut. In this case these were all wanting. The symptoms would indicate that there was an obstruction of the bowel; the only positive evidence of this, however, was that a slight constriction was met at a point about ten or twelve inches within the rectum. The speaker stated further that he had made the experiment of passing a tube into the rectum a great many times both on the

living subject and in the dissecting-room, and that while in some cases he had succeeded very well, in a large number of cases the tube had failed to pass the sigmoid flexure. A soft tube is particularly apt to bend and remain in the rectum, but a tube that is a little more firm is apt to get caught and remain in the folds of the intestine. When a stricture is to be found in the bowel, there are physical signs that are usually well marked. A stricture does not develop suddenly, but is usually several years in developing. By careful examination of the abdomen by careful palpation there can usually be found a tumor. The diagnosis of stricture in those cases in which none of these symptoms has been detected, must be taken with some doubt. In well-marked cases of constriction the speaker had no faith in the use of the stomach-tube, and, under ordinary circumstances, he had little more faith in the use of the rectal tube.

The speaker further thought the use of the rectal tube was attended with considerable danger, and, in the case reported by a previous speaker, he had been led to inquire whether the finding of pus in the peritoneal cavity might not have been due to the use of the rectal tube. Had fecal matter been also found, such an explanation would have received pretty strong support. In cases in which the symptoms were well marked, he could not comprehend how the use of the stomach-tube could be more than palliative in its character. While its use for the relief of annoying symptoms is proper, he thought that when these symptoms return such methods would be abandoned, and an abdominal section made. If this is made early, he could see no reason why the mortality should be more than 25 or 30 per cent.

Dr. Whittaker, in concluding the discussion, remarked that he did not think the last speaker drew a sufficiently distinct line between acute and chronic, and complete and incomplete strictures. It is not always an easy matter to detect the location of occlusions. In proof of this he called attention to a case he had reported five years ago, in which, although a strangulation was found post-mortem, it could not be discovered by the most careful palpation previous to the fatal issue. Nor could the last speaker, who made the post-mortem, detect it until the abdomen had been opened and the intestine searched. As in the majority of cases, so in this, the failure was due to the presence of a thick layer of adipose tissue in the abdominal walls. He strongly objected to the ground just taken, that the use of the stomach-tube could be only palliative, inasmuch as some of the cases that have been reported have been unquestionably cured. That a case should be cured by removing the liquid and gaseous contents of the stomach and intestine is not a matter of surprise when we reflect that some cases are relieved simply by puncturing the intestine through the abdominal wall. The point of most value, however, is the comparative innocuousness of the stomach-tube; on this the speaker wished the more to insist, because one of the members had spoken of the dangers attending its use. There is, it is true, danger in the use of the rectal tube; but thus far there has not been reported a case in which damage was done by the stomach-tube, unless in cases of ulcer. The reports of Haenisch show that the tube causes but a slight abrasion of the mucous membrane, which quickly heals. The speaker agreed with the member who had stated that there is sometimes difficulty in the introduction of the stomach-tube. He had experienced this in some cases, particularly with the soft tube. In these cases he thought it better to use the firmer tube belonging to the stomach-pump. When this is warmed and carefully introduced, there is usually no difficulty. He had, however, never found any difficulty in getting water to enter after the tube was inserted. In regard to the more acute cases he said that the treatment he had proposed would be of as much avail in them as in the more chronic. There are cases which terminate fatally within eight hours, under the so-called shock of strangulation. In these cases opium would be a necessary adjunct. The first benefit of washing out the stomach is in relieving the vomiting. In this regard its effect is marvellous. The effect is shown even in the countenances and comments of those who witness the treatment; but the effect on the patients themselves is almost beyond words. There is nothing so horrible as a case of acute ileus,—in fact it entirely deserves its ancient name, "miserere."

CINCINNATI MEDICAL SOCIETY.

Stated Meeting, March 3, 1885.

The President W. H. McReynolds, M.D., in the Chair.

Dr. F. O. Marsh reported the following

UNUSUAL CASE OF SKIN DISEASE.

Mrs. S., German, æt. 47, has resided in America thirty years, is married, and has one son who is a deaf-mute. Patient possesses average intelligence; always enjoyed good health, except an attack of acute rheumatism twenty years ago; gives no history or evidence of syphilis. About two years ago, the present trouble began with pains in the limbs, which were believed to have been of rheumatic origin. About the same time, she noticed spots about the knees, ankles, fingers, and toes, which according to her description were areas o inflammation, at first covered with scales, which were loose at the commencement of the trouble, but subsequently became firmly adherent, forming a horny epithelial deposit, which subsequently scaled off, leaving a raw surface. This process has been repeated on all parts of the body, forming projecting circumscribed accumulations of horny epithelium. The affection has invaded the scalp, again disappearing without leaving any trace of cicatrization or destruction of hair.

At present two or three of the accumulations are to be seen on the inside of the knee, resembling the crusts of rupia. The most remarkable feature, at present, is the condition of the fingers and toes, which have been affected for a year, having become successively involved, the last invasion taking place about nine months ago; all except the thumb and index finger of one hand are affected. The distal phalanges, especially on the dorsal aspect, are capped with an irregular horny deposit, the nails being much elongated and distorted, or hooked. The little finger of one hand is capped down to the middle of the proximal phalanx with a stiff, thick, and parchment-like covering, resembling the finger of a tightly fitting glove. The zone of tissue immediately behind the glove-finger is considerably elevated above its edge and congested, giving the whole the appearance of a tightly fitting finger-stall of parchment cutting into the flesh. The thumb had been similarly affected,

but the patient had pulled off the cap about three months previously. This relic, which she had preserved with considerable pride, I am permitted to present to you this evening. It will be observed that the formation is much more regular than the above description of the other digits would indicate. The cap is about one-twelfth of an inch in thickness, hard and horny, and the body of the nail which has also been desquamated in its normal position is quite regular. A new nail has been formed, though more irregular than the first, showing that the matrix had not been destroyed. The thumb itself, though free from the peculiar deposit, is somewhat constricted in all its dimensions.

There is no pain at present, but the onset of the affection was attended with pain, which, according to the patient's account, must have been excruciating, and lasting for over a week. Circulation in the extremities is very defective, the patient complaining much of the cold. Otherwise the general health seems not to be much impaired, being disturbed by feelings of apprehension and troubled dreams, though the general disposition while awake is cheerful. Almost simultaneously with the skin affection and the rheumatic pains above alluded to, the ankle-joint became affected by an arthritis. At present the knee-joint is swollen and painful, and sleep is disturbed by muscular twitchings of the affected limb. The wrist-joint is also much enlarged, but not painful. The enlargement seems to affect the articular ends of the bones. The skin-covering of each of these affected joints was at the outset the seat of the epithelial affection in a very marked degree. On the palm of the hand where one of the characteristic excrescences had recently been removed could be seen the hypertrophied papillæ of the corium. Close inspection shows the structures laminated, and microscopic examination reveals the growths composed of flattened epithelial cells closely packed. Cleaned with caustic potash and stained with methylene-blue no microörganisms could be seen except the living bacteria of the water used in mounting, Cornu cutaneum I am unable to find described as occurring on the phalanges and affecting the nails, or as being painful. Neither does it seem to correspond in these respects with the usual descriptions of ichthyosis.

DR. DRURY was much interested in the case, though he confessed the disease seemed to him obscure. The history appeared to indicate that the case was one of ichthyosis, though it was certainly a remarkable and unusual manifestation of the disease.

DR. JOHN L. DAVIS said that this case was interesting from the difficulty and uncertainty of diagnosis. At first sight there is the appearance of an obscure or irregular ichthyosis. The scaly nodules in several parts of the body point to this. Though we have here a striking local disease, the speaker regarded it as the outcome of a constitutional malnutrition, the vulnerable point revealing itself in the trophic nerves of the epithelium. While the term onychoptosis or piplonychia is sometimes used to designate a rare affection consisting in a shedding of the nails, it is in reality only a symptom occurring oftenest in the course of certain severe acute diseases, as scarlatina, typhoid fever, pneumonia, etc.; very rarely does it occur as the leading manifestation of disease. He recommended principally constitutional treatment by means of tonics and arsenic.

DR. RAVOLGI thought this case must be regarded as one of ichthyosis. From the report, it would seem that there were two varieties or rather perhaps two degrees of the affection on the fingers—first the parchment-like condition, *ichthyosis macrée*, and the still more intense condition of *ichthyosis cornea* or *I. hystrix*, representing the most exalted condition of the disease.

A remarkable feature in this case is the late period at which the disease appeared.

Authorities are divided on the question of heredity. In most cases the disease develops itself a few years after birth in the form of I. furfuracea subsequently passing through the form of *I. macrée*, and only at a comparatively late period reaching the condition of I. cornea. The epidermis in this affection seems to possess an unusual capacity for keeping up its nutrition; it is not desquamated at the usual period of its life history, but remains adherent, forming at last horny plates which finally fall off, leaving the underlying surface red and heavily pigmented, which may afterward become again covered with the epidermic masses.

There could hardly be any congenital or hereditary element in the etiology of this case, inasmuch as there was no family history of any such affection and the disease had appeared at a very late period. The general history of partial ichthyosis, moreover, generally seemed to indicate that it arose without reference to heredity.

The neuralgic pains which accompanied the affection would indicate that the trouble was of nervous origin, there probably being some accompanying disturbance of the vaso-motor filaments governing the nutrition of the histological elements.

From the studies of Filesius, Simon Bärensprung, and recently of Esoffit, it seems that in this disease the papillæ are enlarged and elongated, and the sebaceous and sudoriferous glands somewhat atrophied and at times cystic.

Ichthyosis has generally an unfavorable prognosis, though the acquired form is more amenable to treatment than the hereditary.

The treatment should consist of, first, the removal of the epidermic plates, which could be facilitated by maceration in alkaline solutions or soap. The use of Vleminckx's solution, containing flowers of sulphur and chloride of lime, might improve the condition of the skin, and prevent the reformation of the scales. Fowler's solution would prove a valuable systemic remedy.

DR. MARSH was inclined to concur in the diagnosis of ichthyosis, but thought some of the conditions were quite unusual, such as the accompanying arthritis, the severe neuralgia, and the affection of the nails, as well as the regularity in form of some of the formations, as in the cast from the thumb. The joint affection, he thought, could hardly be a spinal arthropathy, as there were pain and all the symptoms of a genuine arthritis of a chronic nature. He thought the continued proliferation of epithelium within the firm shell or case of unyielding epithelium first formed would account satisfactorily for the constriction or compressed appearance of the thumb after the cast had been shed. The same constriction would account for the hyperæmic or congested zone at the base of the glove-finger on the little finger, as the venous return was probably obstructed.

The shedding of the nails might throw light on the

pathology of the disease, as such a condition could hardly be due to a glandular affection of the skin alone, as some authorities had claimed ichthyosis to be.

CORRESPONDENCE.

A NEW UREOMETER.

To the Editor of THE MEDICAL NEWS.

SIR: In the report of the meeting of the New York County Medical Society, published in your issue of the 28th, is a description of a new ureometer, by Dr. Chas. A. Doremus. Excepting that it has no base, the apparatus described is essentially the same as that devised by myself, and described with figure in the *Comptes rendus*, vol. xcvii. page 1142, November, 1883. The description was republished in the *Zeitschrift für analyt. Chemie.* and in several other German journals, as well as in the *Philadelphia Medical Times*, vol. xiv. page 277, and figures also in the last edition of Da Costa's *Diagnosis*. It has been manufactured and sold by Greiner & Friedrichs, of Stützerbach, since January, 1884, and has been favorably received in Germany.

In October, 1884, I brought it to the notice of the Philadelphia County Medical Society, and described as a modification that might be home-made, the identical tube apparatus without base, now claimed by Dr. Doremus. Either Dr. Doremus has knowingly claimed as his own an apparatus, to the invention of which I am entitled to unquestionable priority, or he has betrayed ignorance of the literature of urine analysis. I highly appreciate Dr. Flint's kind remarks as to the utility of my ureometer.

Very truly yours,

WM. H. GREENE.

3225 SANSOM STREET, PHILADELPHIA,
March 30, 1885.

NEW INVENTIONS.

AN IMPROVED PALATE-HOOK.

BY H. M. WILSON, JR., M.D.,

PHYSICIAN TO THE THROAT AND CHEST DEPARTMENT OF THE BALTIMORE GENERAL DISPENSARY.

IT is the intention of this simple device to combine traction with the support of the uvula in a more efficient manner then is done in the palate-hook of Voltolini. It consists of a strip of German silver an inch in length by seven-sixteenths of an inch in width, bent five-sixteenths of an inch from its extremity at an angle of about ninety-five degrees. At the distal end of the shorter arm of the angle, on either side, is a short upright an eighth of an inch wide, leaving a deep sulcus between it and the longer arm, the top of which is bent backwards and rounded at the edges to prevent discomfort to the patient. The whole is firmly soldered to a German silver rod and secured to a suitable handle. The hook is easily adjusted and as easily removed, and its shallowness, its relatively higher sides, and the angular relation of its several parts render it more compact and with outward curve of its point, better fulfils the required condition than its prototype. This hook, which is at once recognized as a modification of Voltolini's, causes little inconvenience to the patient and is tolerated wherever the mirror itself is. The instrument is made by Wilms & Co., of this city.

NEWS ITEMS.

NEW ORLEANS.

(From our Special Correspondent.)

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The local Committee of Arrangements, of which Dr. Samuel Logan is Chairman, is actively engaged in making preparations for the coming meeting of the American Medical Association. This Committee is divided into the following sub-committees:

Committee on Finance: Dr. A. B. Miles, House Surgeon Charity Hospital, Chairman.

Committee on Registration: Dr. S. E. Chaillé, University Building, corner of Common and Baronne Streets.

Committee on Reception and Arrangements: Dr. G. J. Friedrichs, Girod and St. Charles Streets.

The Committee on Finance are making good progress, and hope to raise all the funds required.

The Committee on Registration propose to adopt a new plan for registering physicians and thereby to avoid the delay and confusion, which afforded annoyance at the last meeting. Five or more desks will be provided, and to each will be assigned so many letters of the alphabet, and every physician will be notified by printed posters in hotels and elsewhere, of the location of the desks and where his name must be registered.

The Committee on Reception and Arrangements have not yet selected the hall, but will do so in ample time. The Exposition Authorities offered one of their halls, but after due consideration it was thought best to decline, since there would be no rooms for the Sections to meet in. The distance too would be a formidable obstacle, to say nothing of the danger, that the surrounding attractions might prove damaging to the success of the meeting. In all probability there will be a Physicians' Day at the Exposition, immediately succeeding the session.

The programme is not yet prepared, but will be ready for publication twenty days before the opening day. To this end, those expecting to read papers are urged to forward them at once to Dr. Samuel Logan, corner of Common and Baronne Streets. Quite a number of papers have already been received.

Mr. Ernest Hart, editor of the *British Medical Journal*, was expected to be here and was invited to address the Association but will not be able to be present. The propriety of giving any excursions is questioned, since it is supposed that the Exposition will absorb the spare time and attention of the visiting members. This, however, will not prevent receptions and private entertainments, of which several are already announced. Visiting members will be fortunate in one respect, there can be no trouble as to reduction of rates. No better terms could be obtained than those now offered to visitors to the Exposition and there will be no necessity of obtaining certificates of membership, every physician can get his ticket at his own city at the reduced rates of one cent per mile and be spared all the trouble heretofore experienced.

THE SANITARY COUNCIL OF THE MISSISSIPPI VALLEY recently closed its annual session. It was apparently a very harmonious one and every body was of a repentant and forgiving turn of mind.

Dr. Joseph Holt, President of the Louisiana Board of Health, in his address of welcome, plainly stated that the policy of the Board was to be in full accord with all other health organizations, and acknowledging the right of the interior States to have a voice in matters pertaining to quarantine and infectious diseases of the Mississippi Valley.

THE HEALTH OF NEW ORLEANS.—New Orleans was never healthier than at present and the outlook is favorable for a continuance during the summer, for all our health organizations are in accord and working well together. It has had one disadvantage that citizens do not think it is so necessary to supply the Auxiliary Sanitary Association with funds since the Board of Health has been reorganized. A scientific quarantine is to be tried this summer; if it works well, it will solve a great problem and enhance Dr. Holt's reputation a hundredfold.

MONTREAL.

(From our Special Correspondent.)

PREPARING FOR CHOLERA.—A meeting of the Medical and Hygienic Societies was held on 18th of March, for the purpose of drafting resolutions to be sent to the Federal and Provincial Governments relative to cholera. The following resolutions were passed:

That cholera is an infectious disease introduced into the country from foreign parts.

That in the opinion of medical men of experience the present shipping and quarantine regulations are insufficient to prevent its introduction.

It was further adopted that the Federal Government be urged:

1. To adopt and enforce with the utmost stringency the British Medical Shipping Act and such regulations as may be considered requisite concerning emigration and quarantine.

2. To appoint government health officers on board all ocean vessels carrying passengers, who shall be held responsible for the sanitary condition of such vessels and the health of all on board.

The following resolution was also adopted for presentation to the Provincial Government:

That the Provincial Government be urged to adopt a comprehensive measure dealing with public health, which will arm cities and municipalities of the province of Quebec with ample powers to prevent the introduction and spread of contagious and infectious diseases, and that the draft of the bill concerning public health already prepared and in possession of the health office be forwarded to the Government with suggestions for the preparation of such enactment.

A committee was formed to prepare memorials to the Government, composed of Drs. Hingston, Ross, Cameron, Larocque, Godfrey and Mr. J. L. Archambault. The members of the deputation will be appointed at a subsequent meeting.

THE INTERNATIONAL MEDICAL CONGRESS, WASHINGTON, 1887.—The following rules and provisional lists of officers of the Ninth International Medical Congress, to be held in Washington, in 1887, are published by order of the Executive Committee.

Rules.—1. The Congress will be composed of members of the regular medical profession, and of such persons as may be specially designated by the Executive Committee, who shall have inscribed their names on the Register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynecological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing Societies being entitled to appoint one delegate for every ten of their members.

All Societies entitled to representation are requested to elect their Delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the Delegates so appointed.

2. The work of the Congress is divided into nineteen Sections.

3. The general meetings will be reserved for the transaction of the general business of the Congress, and for addresses or communications of scientific interest more general than those given in the Sections.

4. Questions which have been agreed upon for discussion in the Sections shall be introduced by members previously nominated by the Officers of the Section. The members who open discussions shall present, in advance, a statement of the conclusions which they have formed as a basis for debate.

5. Notices of papers to be read in any of the Sections, together with abstracts of the same, must be sent to the Secretary of that Section before April 30, 1887. These abstracts will be regarded as confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the Officers of the various Sections will be received. Any member, after April 30, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The Officers of each Section shall decide as to the acceptance of any communication offered to their Section, and shall fix the time of its presentation. No communication will be received which has been already published, or read before a Society.

6. All addresses and papers, read either at General Meetings or in the Sections, are to be immediately handed to the Secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the Transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

In the Sections no speaker will be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The Rules, Programmes, and Abstracts of Papers will be published in English, French, and German.

9. The Officers of the General Committee on Organization are a President, such number of Vice-Presidents as may hereafter be determined on, a Secretary-General, and a Treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, the Chairman of the Finance Committee, and of four other members to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee, to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions.

11. There shall be a Standing Committee on Finance, to be appointed by the President, subject to the approval of the Executive Committee. The Chairman of the Finance Committee shall be *ex-officio* one of the Vice-Presidents of the Congress, and also a member of the General and Executive Committees. The Treasurer shall be *ex-officio* a member of the Finance Committee.

12. Presidents of the Sections shall be *ex-officio* members of the General Committee.

13. The Committee on Organization of each Section shall be composed of a President, such number of Vice-Presidents as may be deemed expedient, of one or more Secretaries, and of members forming a Council.

The preliminary organization is as follows:

President, Austin Flint, Sr., M.D., of New York.

Vice-Presidents: Henry I. Bowditch, M.D., of Boston; Henry F. Campbell, M.D., of Augusta, Ga.; Nathan S. Davis, M.D., LL.D., of Chicago; R. Palmer Howard, M.D., of Montreal; Levi C. Lane, M.D., of San Francisco; Tobias G. Richardson, M.D., of New Orleans; Alfred Stillé, M.D., LL.D., of Philadelphia; The Chairman of the Committee on Finance; The President of the American Medical Association; The Surgeon-General of the United States Army; The Surgeon-General of the United States Navy.

Secretary-General, John S. Billings, M.D., LL.D., U.S.A., of Washington.

Treasurer, John Mills Browne, M.D., U.S.N., of Washington.

General Committee: Robert Battey, M.D., of Rome, Ga.; Clarence J. Blake, M.D., of Boston; Henry P. Bowditch, M.D., of Boston; Samuel C. Busey, M.D., of Washington; James R. Chadwick, M.D., of Boston; J. M. Da Costa, M.D., of Philadelphia; John C. Dalton, M.D., of New York; W. W. Dawson, M.D., of Cincinnati; Francis Delafield, M.D., of New York; George J. Engelmann, M.D., of St. Louis; William A. Hardaway, M.D., of St. Louis; I. Minis Hays, M.D., of Philadelphia; David L. Huntington, M.D., U.S.A., of Washington; Abraham Jacobi, M.D., of New York; Hosmer A. Johnson, M.D., LL.D., of Chicago; Christopher Johnston, M.D., of Baltimore; R. A. Kinloch, M.D., of Charleston, S. C.; George M. Lefferts, M.D., of New York; Joseph Leidy, M.D., LL.D., of Philadelphia; S. Weir Mitchell, M.D., of Philadelphia; Henry D. Noyes, M.D., of New York; Thaddeus A. Reamy, M.D., of Cincinnati; Thomas F. Rochester, M.D., of Buffalo; Lewis A. Sayre, M.D., of New York; Jonathan Taft, M.D., of Cincinnati; W. Chew Van Bibber, M.D., of Baltimore; Horatio C. Wood, M.D., of Philadelphia; David W. Yandell, M.D., of Louisville, Ky.

Executive Committee: I. Minis Hays, M.D., of Philadelphia, *Chairman;* The President; The Secretary-General; The Treasurer; The Chairman of the Finance Committee; Samuel C. Busey, M.D., of Washington; Abraham Jacobi, M.D., of New York; Christopher Johnston, M.D., of Baltimore.

Standing Committee on Finance, William Pepper, M.D., LL.D., of Philadelphia, *Chairman.*

[The organization of this Committee will be announced hereafter.]

SECTION I.—MEDICAL EDUCATION, LEGISLATION, AND REGISTRATION.—*President*, Henry P. Bowditch, M.D., of Boston. *Vice-Presidents:* Stanford E. Chaillé, M.D., of New Orleans; Alfred Stillé, M.D., of Philadelphia. *Secretaries:* Samuel J. Mixter, M.D., and William P. Whitney, M.D., of Boston.

SECTION II.—ANATOMY. *President*, Joseph Leidy, M.D., LL.D., of Philadelphia. *Vice-President*, Samuel Logan, M.D., of New Orleans. *Secretaries*, William W. Keen, M.D.; George E. De Schweinitz, M.D., of Philadelphia.

SECTION III.—PHYSIOLOGY. *President*, John C. Dalton, M.D., of New York. *Vice-Presidents:* James F. Hibberd, M.D., of Richmond, Ind.; H. Newell Martin, M.D., of Baltimore; Middleton Michel, M.D., of Charleston, S. C. *Secretary*, John G. Curtis, M.D., of New York.

SECTION IV.—PATHOLOGY. *President*, Francis Delafield, M.D., of New York. *Vice-President*, William Pepper, M.D., LL.D., of Philadelphia. *Secretaries:* Theophile M. Prudden, M.D., of New York; William H. Welch, M.D., of Baltimore.

SECTION V.—MEDICINE. *President*, J. M. Da Costa, M.D., of Philadelphia. *Vice-Presidents:* Alfred L. Loomis, M.D., LL.D., of New York; James B. McCaw, M.D., of Richmond, Va.; Richard McSherry, M.D., of Baltimore; Alonzo B. Palmer, M.D., LL.D., of Ann Arbor, Mich.; Thomas F. Rochester, M.D., of Buffalo. *Secretary*, William Osler, M.D., of Philadelphia.

SECTION VI.—SURGERY. *President*, David W. Yandell, M.D., of Louisville. *Vice-Presidents*, D. Hayes Agnew, M.D., LL.D., of Philadelphia; William T. Briggs, M.D., of Nashville; Samuel W. Gross, M.D., of Philadelphia; W. H. Hingston, M.D., of Montreal; R. A. Kinloch, M.D., of Charleston, S. C.; Edward M. Moore, M.D., of Rochester, N. Y.; Lewis A. Sayre, M.D., of New York. *Secretary*, John Collins Warren, M.D., of Boston.

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SECTION VIII.—GYNÆCOLOGY. *President:* Robert Battey, M.D., of Rome, Ga. *Vice-Presidents:* William

H. Byford, M.D., of Chicago; Thomas Addis Emmet, M.D., LL.D., of New York; Henry P. C. Wilson, M.D., of Baltimore. *Secretaries:* James R. Chadwick, M.D., of Boston; George J. Engelmann, M.D., of St. Louis.

SECTION IX.—OPHTHALMOLOGY. *President,* Henry D. Noyes, M.D., of New York. *Vice-Presidents:* William Thomson, M.D., of Philadelphia; E. Williams, M.D., of Cincinnati.

SECTION X.—OTOLOGY. *President,* Clarence J. Blake, M.D., of Boston. *Vice-Presidents:* Charles H. Burnett, M.D., of Philadelphia; H. N. Spencer, M.D., of St. Louis.

SECTION XI.—DERMATOLOGY AND SYPHILIS.—*President,* William A. Hardaway, M.D., of St. Louis. *Vice-Presidents:* Louis A. Duhring, M.D., of Philadelphia; James Nevins Hyde, M.D., of Chicago; James C. White, M.D., of Boston. *Secretary,* Arthur Van Harlingen, M.D., of Philadelphia.

SECTION XII.—NERVOUS DISEASES AND PSYCHIATRY. *President,* S. Weir Mitchell, M.D., of Philadelphia. *Vice-Presidents:* Charles F. Folsom, M.D., of Boston; John P. Gray, M.D., LL.D., of Albany, N.Y.; J. S. Jewell, M.D., of Chicago. *Secretary,* Charles K. Mills, M.D., of Philadelphia.

SECTION XIII.—LARYNGOLOGY. *President,* George M. Lefferts, M.D., of New York. *Vice-President,* Frederick I. Knight, M.D., of Boston. *Secretary,* D. Bryson Delavan, M.D., of New York.

SECTION XIV.—PUBLIC AND INTERNATIONAL HYGIENE. *President,* Hosmer A. Johnson, M.D., LL.D., of Chicago. *Vice-Presidents:* Ezra M. Hunt, M.D., of Trenton, N. J.; John Berrien Lindsley, M.D., LL.D., of Nashville; James E. Reeves, M.D., of Wheeling, W. Va.

SECTION XV.—COLLECTIVE INVESTIGATION, NOMENCLATURE AND VITAL STATISTICS. *President,* Nathan S. Davis, M.D., LL.D., of Chicago. *Vice-Presidents,* Jerome Cochran, M.D., of Mobile; Edwin M. Snow, M.D., of Providence, R. I. *Secretary,* James F. Todd, M.D., of Chicago.

SECTION XVI.—MILITARY AND NAVAL SURGERY AND MEDICINE. *President,* David L. Huntington, M.D., of U. S. Army. *Vice-Presidents:* Frank H. Hamilton, M.D., LL.D., of New York; Hunter McGuire, M.D., of Richmond, Va.; S. P. Moore, M.D., of Richmond, Va.; William E. Taylor, M.D., U. S. Navy (retired). *Secretary,* Benjamin F. Pope, M.D., U. S. Army.

SECTION XVII.—PRACTICAL AND EXPERIMENTAL THERAPEUTICS. *President,* Horatio C. Wood, M.D., of Philadelphia. *Vice-Presidents:* Robert T. Edes, M.D., of Boston; F. Peyre Porcher, M.D., of Charleston, S. C. *Secretaries:* Edward T. Reichert, M.D., Robert Meade Smith, M.D., of Philadelphia.

SECTION XVIII.—DISEASES OF CHILDREN. *President,* Abraham Jacobi, M.D., of New York. *Vice-Presidents:* Samuel C. Busey, M.D., of Washington; J. Lewis Smith, M.D., of New York. *Secretary,* Thomas M. Rotch, M.D., of Boston.

SECTION XIX.—DENTAL AND ORAL SURGERY. *President,* Jonathan Taft, M.D., of Cincinnati. *Vice-Presidents:* W. W. Allport, M.D., of Chicago; William H. Dwinelle, M.D., of New York; Jacob L. Williams, M.D., of Boston. *Secretaries,* Edward A. Bogue, M.D., of New York; George H. Cushing, M.D., of Chicago.

In addition to the above, the organization of each Section includes a Council.

CLINICAL TEACHING AT THE CHILDREN'S HOSPITAL.—We are informed that arrangements are being perfected at the Children's Hospital, Philadelphia, for the delivery of clinical lectures upon the medical and surgical diseases of children, and upon diseases of the eye and ear. A lecture room has been arranged, and lectures will be given on Wednesdays and Saturdays after May 1.

The material is abundant, and such a course as is proposed can hardly fail to be of benefit to those who attend it.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—The second special meeting of the Fifth District Branch will be held in Poughkeepsie on Tuesday, May 19, 1885.

Fellows desiring to contribute papers, notes, or remarks on any subject of interest, are requested as soon as convenient, to notify the Secretary, E. H. Squibb, M.D., 36 Doughty Street, Brooklyn.

SIR HENRY THOMPSON has recently written a clever novel called "Charley Kingston's Aunt," which has attracted considerable attention abroad.

VIOLATION OF PROFESSIONAL SECRECY.—Rumors deemed false having been circulated as to the cause of the death of the great painter, M. Bastien Lepage, Dr. Watelet, his medical attendant, wrote to the *Matin,* stating what, in his opinion, was the true cause. The *Temps* has recently announced that a prosecution *ex-officio* of Dr. Watelet is being undertaken for violation of professional secrecy, and against the *Matin* as his accomplice in the misdemeanor.—*Lancet,* March 7, 1885.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 24 TO MARCH 30, 1885.

TAYLOR, M. K., *Major and Surgeon.*—Granted leave of absence for one month, to take effect about April 15th.—*S. O. 46, Department of Missouri,* March 21, 1885.

HOWARD, VALERY, *Captain and Assistant Surgeon.*—Leave of absence extended one month.—*S. O. 65, A. G. O.,* March 21, 1885.

HALL, WM. R., *Captain and Assistant Surgeon.*—Granted leave of absence for one month and fifteen days, to take effect when his services can be spared.—*S. O. 70, A. G. O.,* March 27, 1885.

RAYMOND, H. I., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Gaston, Cal., as Post Surgeon.—*S. O. 30, Department of California,* March 20, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MARCH 28, 1885.

BATTLE, K. P., *Assistant Surgeon.*—To proceed to Memphis, Tenn., for temporary duty, March 27, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*